

Bico, Inc.
3116 Valhalla Drive, Burbank, CA 91505
Tel. (818) 842-7179 – Fax (818) 842-7976
sales@bicoinc.com

BICO UD DIRECT DRIVEN PULVERIZER

The Bico Direct Driven UD Pulverizer is a high quality laboratory apparatus. It is one of the lines of BICO Pulverizers that have earned an enviable reputation in assay, industrial, metallurgical and chemical laboratories the world over. It is a sturdy and serviceable machine built to give years of exemplary service.

To obtain the service, which this Pulverizer is capable of delivering, it must have proper care. The maintenance requirements are few, but they must be observed for maximum efficiency and economy. This instruction brochure contains directions for installation and care of your Pulverizer, together with complete parts list. We suggest that you keep this packet filed for easy reference.

SPECIFICATIONS

1/4" Quartz to 150 - 200 mesh at one (1) lb./min.
Available in 2,3 & 5 HP, 3 PH (only), 50 /60 Cycle, 220/380/440/575 Volts.

Shipping Dims: 27" x 34" 32"H
Shipping Wt. 425 lbs.

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OWNERS AND OPERATORS MANUAL FOR THE UD PULVERIZER

The operation principle is quite simple: A grooved revolving plate is rotated against a grooved stationary plate to produce the grinding action. The space, which separates the plates when they are adjusted for operation, determines the fineness to which the friable material is reduced.

INSTALLATION

Unpack the Pulverizer and set it on a level platform in the desired location. Tightly secure the machine in position with the lag bolts that are shipped with the machine. They can be found in a package in the ore pan. Also found in the ore pan is the cover bracket. This bracket prevents the cover from opening to a point of strain on the hinges. Attach this stop to the side of the Pulverizer using the three cap screws supplied for this purpose.

Connect the included starting switch to your power source in accordance with the directions enclosed with the switch. Just above the junction box on the Pulverizer is a direction plate indicating the proper wiring for your current. Connect the Pulverizer to the relay switch in accordance with these directions.

NOTE: THE PLATES SHOULD ROTATE CLOCKWISE, AS OBSERVED FROM THE FRONT (FEED CHUTE) END OF THE MACHINE.

The optional magnetic switch has internal overload protection. This shuts off the current automatically should the Pulverizer jam due to improper adjustment of the plates or jamming of the grinding plates.

Should an overload occur, wait a few minutes, to permit relay to cool, and press the RESET button.

ADJUSTMENT

Before operation, clean the Pulverizer thoroughly, being careful to wipe all oil from the grinding plates and interior. The plates are shipped oiled to prevent rusting.

The Bico Pulverizer can be adjusted during operation by means of the adjusting screw at the end of the shaft. The setting can be permanently maintained by tightening the lock lever. This setting retained when the Pulverizer is opened for cleaning.

The Ball Bearings are totally sealed and need no lubrication.

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CLEANING

Your Model UD Pulverizer is easy to clean. It opens up so all of the interior parts are easily accessible for cleaning with a brush or with compressed air. Be sure all machine surfaces, the door, and the grinding plates are cleaned of material before beginning each operation.

GRINDING PLATES MUST BE PARALLEL AT ALL TIMES

ALWAYS CLEAN ALL MATING SURFACES TO INSURE REPEATABILITY OF PLATE SETTINGS.

Important:

When the Pulverizer is operated regularly the DUST COLLECTOR (UD-35) **MUST** be cleaned weekly.

To Clean: Remove screw, cover, screen and filter. Clean the filter with solvent and then oil lightly with a light machine oil. Then replace the filter, screen, cover and screw back together

GRINDING PLATES

Bico grinding plates are available in a variety of materials and hardness to provide you with the best performance for your type of sample.

All plates (disc) are 8" in diameter and bear the Bico part number on the backside. A set of two (2) plates is required when running the machine: One stationary plate (w/hole) located on the door and one revolving plate located on the flange. New machines are factory installed with the standard Iron Alloy Plates (UA-51/52).

Proper installation and maintenance is very important to assure long wear and fine grind. Perfect plate alignment is essential for optimum machine production. The UA-1000 plate aligner is available to assist you with this procedure.

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BICO INC. GRINDING PLATES

IRON PLATES

UA-51	Standard Iron Alloy Plate - Stationary	11/5
UA-52	Standard Iron Alloy Plate - Revolving	11/5
UA-94	Wear Resistant Iron Alloy - Stationary	11/5
UA-95	Wear Resistant Iron Alloy - Revolving	11/5
UA-85	Hardened Iron Alloy - Stationary	11/5
UA-86	Hardened Iron Alloy - Revolving	11/5
UA-97	Ductile Iron - Stationary	11/5
UA-98	Ductile Iron - Revolving	11/5

STEEL PLATES

LD-03/04	Semi-Steel Grinding Plates (sold in sets only)	24/11
UA-81	Low Phosphorus Carbon Steel - Stationary	11/5
UA-82	Low Phosphorus Carbon Steel - Revolving	11/5
UA-2000S	Chrome Alloy Steel - Stationary	11/5
UA-2000R	Chrome Alloy Steel - Revolving	11/5

MANGANESE PLATES

UA-83	Manganese Steel - Stationary	11/5
UA-84	Manganese Steel - Revolving	11/5

CONTAMINATION CONTROL PLATES

UA-92XX	Alumina Ceramic - Stationary	12/5
UA-93XX	Alumina Ceramic - Revolving	12/5

PLATES FOR USE WITH COAL

UA-87	Iron Alloy with special grinding pattern - Stationary	11/5
UA-88	Iron Alloy with special grinding pattern - Revolving	11/5

TOOLS TO INSTALL PLATES

UA-1000(C)	Plate Aligner (C=for use with Ceramic plates)	2/2
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RECOMMENDED SPARE PARTS FOR ONE (1) YEAR OPERATION OF UD PULVERIZER

10 Sets	UA-51/52	Iron Alloy Grinding Plates
1 Ea.	UA-6	Drop Clutch
1 Ea.	UA-7	Hand Screw for Drop Clutch
1 Ea.	UA-9	Eye Bolt
1 Ea.	UA-9A	Hand Nut for Eye Bolt
1 Ea.	UA-18A	Ore Pan
1 Ea.	UA-67	Shock Absorbing Spring for Door
1 Ea.	UD-35A	Filter for Dust Collector

FOR TWO (2) YEAR OPERATION ADD:

1 Ea.	UD-9	End Cover
1 Ea.	UD-10/11	Adjusting Screw with Hand Wheel
1 Ea.	UD-18	Front Ball Bearing
1 Ea.	UD-19	Rear Ball Bearing
1 Ea.	UD-21	Front Seal (Small)
1 Ea.	UD-22	Rear Seal (Large)
10 Sets	UA-51/52	Iron Alloy Grinding Plates

NOTE: PLEASE GIVE SERIAL NUMBER OF UNIT WHEN ORDERING PARTS.

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BICO UD PULVERIZER SPARE PARTS

*** PLEASE ADVISE SERIAL NUMBER WHEN ORDERING SPARE PARTS ***

PART #	DESCRIPTION	WEIGHT LBS./KG
UD-1	FRAME WITH DOOR AND COVER	158/72
UD-2	END BELL	33/15
UD-4	FAN	2/1
UD-6	MOVABLE FLANGE DISC (FOR MOVABLE PLATES)	7/3
UD-7	LOCK WASHER	1/4
UD-8	BALL BEARING CAGE	5/2
UD-9	END COVER	5/2
UD-10/11	ADJUSTING SCREW WITH HAND WHEEL (NOT SOLD INDIVIDUALLY)	2/1
UD-12	BRASS WASHER	1/4
UD-13A	DOWEL PIN (FOR S/N LATER THAN 58620)	1/4
UD-14	BEARING SLEEVE FOR UD-18, FRONT BALL BEARING	1/4
UD-15	SNAP RING FOR UD-1	1/4
UD-16	SNAP RING FOR UD-8	1/4
UD-17	SNAP RING FOR UD-14	1/4
UD-18	FRONT BALL BEARING	2/1
UD-19	REAR BALL BEARING	2/1
UD-20	LOCK NUT	1/4
UD-21A	FELT WASHER	1/4
UD-21	FRONT SEAL (SMALL)	1/4

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BICO UD PULVERIZER SPARE PARTS (CONTINUED)

PART #	DESCRIPTION	WEIGHT LBS./KG
UD-22	REAR SEAL (LARGE)	1/4
UD-23	WOODRUFF KEY	1/4
UD-24	CAP SCREW FOR END BELL (4 REQ.)	1/4
UD-25	CAP SCREW FOR FRAME (4 REQ.)	1/4
UD-26	CAP SCREW FOR LOCK WASHER (1 REQ.)	1/4
UD-27	CAP SCREW FOR UD-6 & UD-9 (6 REQ.)	1/4
UD-29	LOCK LEVER	2/1
UD-30	SHOULDER RING (FOR S/N PRIOR TO 58409)	1/4
UD-32	BASE PLATE	38/17
UD-33	CAP SCREW FOR FRAME AND BASE PLATE	1/4
UD-34	CAP SCREW FOR END BELL	1/4
UD-35	DUST COLLECTOR	2/1
UD-35A	FILTER FOR DUST COLLECTOR	2/1
UD-36	BAND	1/4
UD-37	CLEANING BRUSH	1/4
UD-39	LAG SCREW FOR BASE	1/4

*****NET - NO DEALER DISCOUNT APPLY*****

UD-3	2HP ROTOR WITH SHAFT AND FAN FOR MODEL #242-67	39/18
UD-3S	3HP ROTOR WITH SHAFT AND FAN FOR MODEL #242-67S	42/19
UD-3S5	5 HP ROTOR WITH SHAFT AND FAN FOR MODEL #242-67XS5	42/19

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BICO UD PULVERIZER SPARE PARTS

PART #	DESCRIPTION	WEIGHT LBS./KG
UD-5	2HP STATOR 220/440 VOLT WITH HOUSING FOR MODEL #242-67	50/23
UD-5S	3HP STATOR 220/440 VOLT WITH HOUSING FOR MODEL #242-67S	72/33
UD-5S5	5HP STATOR 220/440 VOLT WITH HOUSING FOR MODEL #242-67XS5	72/33

THE FOLLOWING PARTS ARE "UA" PARTS THAT ARE USED IN THE UD PULVERIZER

UA-3	HINGE PIN FOR DOOR	1/4
UA-4	COVER - S/N PRIOR TO 55234 MUST BE DRILLED ON SITE	18/8
UA-5	HINGE PIN FOR COVER	1/4
UA-6	DROP CLUTCH	1/4
UA-7	HAND SCREW FOR DROP CLUTCH	1/4
UA-8	SCREW FOR CLUTCH	1/4
UA-9	EYE BOLT	1/4
UA-9A	HAND NUT FOR EYE BOLT	1/4
UA-10	PIN FOR EYE BOLT	1/4
UA-12	CAP SCREW FOR STATIONARY PLATE	1/4
UA-18A	ORE PAN	1/4
UA-53	DOOR - S/N PRIOR TO 55234 MUST BE DRILLED ON SITE	24/11

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**BICO UD PULVERIZER SPARE PARTS
(CONTINUED)**

PART #	DESCRIPTION	WEIGHT LBS./KG
UA-54	CAP SCREW FOR REVOLVING PLATE	1/4
UA-57	MALLEABLE BRACKET FOR COVER	2/1
UA-62	CAP SCREW FOR COVER BRACKET	2/1
UA-63	WASHER FOR UA-12 CAP SCREW	1/4
UA-67	SHOCK ABSORBING SPRING FOR DOOR	1/4
UA-1000(C)	PLATE ALIGNER (C= FOR CERAMIC PLATES)	2/1
MD-1A	MANUAL DOOR OPENER	