

## **BICO DULIN HAND DRIVEN ROTAREX SEPARATORS**

For the determination of bitumen content character and gradation of aggregates in bituminous paving material. Operation requires only ten minutes. The sample is first weighed then heated slightly to start crumbling, cooled and placed in the Rotarex bowl. Solvent is then added. When set in motion, centrifugal action forces all liquid through a filter paper gasket at the periphery of the bowl, effectively cleaning and drying the sample. Solvent should be periodically added to the sample while the bowl is in motion to clean the sample until it runs perfectly clear from the drain spout. Aggregates are then weighed and graded. Weight before and after extraction of bitumen determines constituent proportions.

Solvent is recovered via an aluminum catch basin draining to a spout. The bowl cover is held in place by a center filler screw, consisting of a funnel shaped piece which screws into the power shaft head (and also serves as an inlet for additional solvent while the Rotarex is running.

### **\*\*\*OPERATING INSTRUCTIONS\*\*\***

Remove plug at end of housing and fill housing with oil, which is supplied with the machine; replace plug.

To remove bowl, press on lock pin and turn bowl **SLOWLY** until pin engages in the hole in the shaft and locks the shaft. Then unscrew bowl by turning to the right.

### **DO NOT PRESS ON THE PIN WHILE THE MACHINE IS IN MOTION**

To stop the machine, it is necessary to remove the receptacle cover and press on the cover of the aluminum bowl.

***BOWL STEM IS LEFT HAND THREAD***

## TEST PROCEDURE

1. Weigh out desired quantity of sample and distribute evenly and uniformly around the bowl to avoid off balance loading. This even distribution and a slow start will allow the material to disperse properly and minimize excessive vibration from an unbalanced load.
2. The filter ring should be placed between the bowl cover and bowl. The cover is clamped tightly to the bowl by tightening the filler screw. A measured quantity of solvent is added through the filler screw. Small holes in the cover prevent the receptacle from becoming air bound.
3. **START SLOWLY:** In addition to reasons previously stated, this allows the solvent time to dissolve the sample before maximum speed is attained and extraction occurs.
4. **MAINTAIN SPEED:** For 15 seconds. This forces the solvent through the filter paper ring between the bowl and cover.
5. **EXTRACTED SOLVENT:** Is drained from the receptacle by gravity through the drain spout and into a beaker or other container.
6. **REPEAT:** For the prescribed number of solvent additions specified in the following referenced methods.
7. **CAUTION ON SOLVENTS:** Although benzene is approved in the manual of test methods, the use of Triclor-ethylene is recommended.

## REFERENCES

ASTM Test Method for Quantitative Extractions of Bitumen from Bituminous Paving Mixtures - Designation D2171-72.

A.A.S.H.O. Part 2 - Tests for Highway Materials Designation T164-70.

These official test methods should be consulted for detailed methods of procedure. Instructions pertain only to specific operation of Rotarex.

## BICO HAND DRIVEN DULIN ROTAREX SPARE PARTS

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

<b>CATALOG #</b>	<b>DESCRIPTION</b>	<b>LBS/KG</b>
111-57	Filter Rings for 500 GM Hand Driven Rotarex (9" O.D.) (100/Pkg).	1/4
111-77	Filter Rings for 1000/1500 GM Hand Driven Rotarex (9 3/4" O.D.) (100/Pkg)	1/4
52-1	Frame	21/10
52-2	Bottom Plate	2/1
52-3	Aluminum Receptacle	5/2
52-4	Large Aluminum Cover for Receptacle	2/1
52-5	Small Aluminum Cover for Receptacle	2/1
52-6	Handle for Small Cover for Receptacle	1/4
52-7	Filler Screw (For 500/1000/1500 GM)	1/4
52-8	Aluminum Bowl with Steel stem and Nut (For 500 GM Rotarex)	3/1
52-8S	Aluminum Bowl with Steel Stem and Nut (For 1000 GM Rotarex)	3/1
52-8X	Aluminum Bowl with Steel Stem and Nut (For 1500 GM Rotarex)	3/1
52-9	Aluminum Cover for 500 GM Bowl	2/1
52-9S	Aluminum Cover for 1000/1500 GM	2/1
52-10	Steel Stem for 500 GM Bowl	1/4
52-10S	Steel Stem for 1000 GM Bowl	1/4

<b>CATALOG #</b>	<b>DESCRIPTION</b>	<b>LBS/KG</b>
52-10X	Steel Stem for 1500 GM Bowl	1/4
52-11	Nut for Steel Stems	1/4
52-12	Ball Bearing	1/4
52-13	Worm Shaft	1/4
52-14	Stop Collar for Worm Shaft	1/4
52-16	Thrust Steel Balls	1/4
52-17	Set Screw for Worm Shaft	1/4
52-18	Nut for Set Screw	1/4
52-19	Crank Shaft with Cam	1/4
52-20	Crank	1/4
52-21	Crank Handle with Bolt, Nut & Washer	1/4
52-25	Clutch Pin for Crank	1/4
52-26	Spring for Clutch Pin	1/4
52-27	Large Gear	2/1
52-28	Pinion Gear	1/4
52-29	Bronze Worm Gear	1/4
52-31	Pinion Gear Shaft	1/4
52-32	Set Screw for Shaft - Hollow Point	1/4
52-33	Set Screw Nut	1/4
52-36	Stop Pin	1/4
52-38	Spring for Stop Pin	1/4
52-39	Drain Spout for Receptacle	1/4

<b>CATALOG #</b>	<b>DESCRIPTION</b>	<b>LBS/KG</b>
52-40	Lid Lift Cam for Receptacle	1/4
52-44	Felt Gasket for Top of Frame	1/4
52-45	Washer for Felt Gasket	1/4
52-49	Gasket for Bottom of Frame	1/4
52-50	Steel Worm Gear	1/4
52-52	Special Gear Oil (1 Quart Tin)	2/1
52-53	Teflon Washer (Optional)	1/5