GENERAL INSTALLATION & OPERATING INSTRUCTIONS

for

6" DIA. X 8" LONG - SINGLE DRUM FLAKER

with

DIP FEED PAN

and/or

APPLICATOR ROLL

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INSTALLATION

The flaker and drive are shipped assembled onto a common base. The unit should be inspected closely to insure that there was no damage in transit and that the drive is properly lined-up.

The flaker should be mounted on a substantial table or platform and secured to it.

The flaker should be set level. It is important that the drum and roll be level lengthwise.

The water supply and discharge should be connected to the rotary joint on the drum by means of flexible hoses. Install a strainer with about a 16 mesh screen on the water inlet. Always control the water flow by throttling the inlet. The discharge should be free from valves as a safety precaution to prevent pressure build-up in the drum. (3/8" NPT-inlet)

Make the inlet and outlet connections to the rotary joints on the roll by means of flexible hoses.

All joints should be piped so that no weight rests on the joints. Joints should be free to float. Follow the instructions layed down in the bulletins on the Johnson Rotary Joint, - a copy of which is attached.

FEED PAN

The pan is adjustable to regulate the depth that the drum dips. Screws are provided for this purpose and for leveling the pan. The pan is steam jacketed to prevent solidifying of the liquor and is designed for 100 psi.

OPERATION

The drum speed is adjustable from 1 to 12 RPM. The roll is driven by a sprocket meshing with the main gear to give the same peripheral speed as the drum.

The roll is mounted in self-aligning bearings with spring loaded adjustments so that the roll can be run at a set clearance from the drum surface.

The feed material may be fed into the nip formed by the Applicator Roll and the Drum, or into the feed pan.

The knifeholder rests on bearings in the frames and screws are provided for adjusting the pressure of the knife against the drums. It is very important that great care is exercised in adjusting the knife pressure to prevent gauling or scoring of the drums. The knife must be set in the holder in accurate alignment with the drum surface. The knife generally will remove the flakes easily and very little pressure is required on the blade.

The film thickness on the drum is controlled by adjusting clearance between the drum and applicator roll, or in the case of the feed pan by adjusting the depth of the dip. Also by varying the speed of the drum, we vary the length of time that the drum is in contact with the liquid either in the pan or in the nip and therefore the thickness of the flake.

The level of the feed in the pinch is usually held as low as possible. After a few trial runs the proper level is determined for good operation. The same may be said for determining the optimum depth of dip.in the feed pan.

OPERATION WITH APPLICATOR ROLL

Before starting make sure that the nip between drum and roll is clear; and all flaker bearings and the drive have been properly lubricated: -

1. Start the drum and applicator roll revolving slowly and later vary the operating speed to give the desired product.

2. Admit steam or hot water to the applicator roll. Heating medium will depend on the melting point of the product. Maintain minimum heat on the roll consistent with good operation to minimize cooling load but sufficient to avoid product solidifying and sticking to the roll.

3. Admit liquid into the pinch between the drum and roll. It will be necessary to check the level in the pinch from time to time to see that a proper level is maintained.

4. Now set the knife so that it just touches the drum. The knife generally will remove the flakes easily and usually very little tension is required on the blades. Excessive tension on the blade only increases the power, wears the knives more rapidly and increases the possibility of drum damage.

5. As soon as a film forms on the drum, turn the water on. Materials with a high melting point do not always adhere to the drum surface readily if the drum is too cold. In that case, drum should be allowed to warm-up in contact with the liquid before cooling water is turned on. While operating, check the temperature of the rise of about 5°F by regulating the water inlet valve. A water circulating system is desirable for maintaining uniform water temperature during seasonal changes by controlling the water outlet temperature and adding colder water to the inlet as required.

6. If the material is not cooled sufficiently, the quantity of cooling water going thru the drums can be increased or colder water used. The drum speed can be decreased, to allow the material longer to cool on the drum. The clearance between the drum and the roll can be adjusted, to regulate the thickness of the sheet. Reduce the temperature of the heating medium in the applicator rolls. In some applications, where the feed does not adhere to the applicator roll, the temperature cooling water to the roll may be lower than to the drum.

7. If the flake is too thin, the drum speed can be decreased or the clearance between drum and roll increased. A combination of both may prove successful. Increase the level in the nip.

8. If the cooled material is coming off the drum before it reaches the knife, the quantity of water going thru the drum can be decreased, the drum speed can be increased or the drum and roll clearance can be increased. If these changes fail, grooving the drum may be necessary.

OPERATION WITH FEED PAN

1. Start the drums revolving slowly and later vary the operating speed to give the desired product.

2. Turn the steam on the feed pan jacket. Allow the feed pan to warm up, but care should be taken not to overheat as some products may decompose.

3. Set the knife so that it just touches the drum. The knife generally will remove the flakes easily and very little tension is required on the blades.

4. As soon as the film forms on the drums, turn the cooling water on. Materials with a high melting point do not always adhere to the drum surface readily if the drum is too cold. In that case, drum should be allowed to warm up in contact with the liquid before cooling water is turned on.

5. The drums should be immersed in the feed about 1/4". This depth to be observed and adjusted manually for best operation.

6. If the material is not cooled sufficiently, the quantity of cooling water going through the drums can be increased or colder water used. The drum speed can be decreased, thereby giving the material longer to cool on the roll.

7. If the flake is too thin the drum speed can be decreased or the depth of drum immersion increased.

8. If the cooled material is coming off the roll before it reaches the knife, the quantity of water going through the roll can be decreased or the drum speed can be increased.

If for any reason satisfactory results are not obtained when the above rules are followed, it may be necessary to modify them to some extent. With some products, tempered water must be used for satisfactory operation.

SHUTTING DOWN

1. Shut off the feed to the nip or to the feed pan.

2. Drain the feed pan and shut off the steam to the jacket, or in the case of the applicator roll, after all liquid has been removed from the nip, shut off steam or water to the roll.

3. After the drum is free of product back the knife away from the drum.

4. Shut off the cooling water to the drum.

5. Shut down the drive.

LUBRICATION

Part	Lubricant	Our Spec.No.*
Motor	Mobilux #2 (Ball Bearing) Grease Packed	6
	DTE Heavy Medium (Sleeve Bearing)	5
Drum Bearings	DTE Oil AA	1
Knife Shaft Bearings	DTE Oil AA	1
Knife Adjusting Screws	DTE Oil AA	1
Pan Adjusting Screws	DTE Oil AA	1
Graham Transmission	Refer to nameplate on transmission which specifies proper grade of lubricant to be used	

* See attached sheet for alternate sources.

RECOMMENDED LUBRICANTS

MANUFACTURER'S BRAND OR GRADE NUMBER

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Specification Number	Cities Service Oil Co.	Kendall Refining Company	Shell Oil Company	Mobil Oil Company	Exxon Company U.S.A.	Sun Oil Company	Gulf Oil Company	Texaco Inc.
1 (Oil)	Pacemaker Oil #320	All Oil Gear-Lube SAE 85W-90	Turbo Oil 320	DTE Oil AA	Teresstic 320	Sunvis 9112	Gulf Harmony 320	Regal Oil 390
2 (Oil)	Regular Gear Oil #250	All Oil Gear-Lube SAE-140	Vitrea Oil 850	Extra Hecla Super Cylinder Mineral	Cylesstic 1500	Sunep 1150	Gulf Security 788	Regal Oil 390
3 Gear Lubricant	Compound LS-0	Kendall SR-12X	Omala Oil H	Mobiltac * A	Surett Fluid 4K	Sunep Compound 250 Special	Gulf Fluid Lubcote #3	Crater 2X Fluid
4 Grease	Grease Hep-2	Kendall M-621	Darina Grease 1	Mobil- * Temp #1	Ronex MP or Unirex-N2	Sunaplex 992 EP Special	Gulf Gem Grease	Multi Fax Ep-2
5 (Oil)	Pacemaker Oil #68	Kenoil R & O 053 Ep		DTE Oil Heavy Medium	Teresstic 68	Sunvis 931	Gulf Harmony 68	Regal Oil R & O 68
6 (Grease)	Grease Hep-2	L-426 or L-427	Alvania EP Grease 2	Mobilux * Ep #2	Ronex MP	Sunaplex 992 Ep	Gulf Gem Grease	Premium RB