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SECTION A - DESCRIPTION

The Vincent Compact Press Model CP-4 consists of a compression screw which rotates within a screen housing fitted with a resistor bar, having a flanged inlet hopper and a discharge opening. At the discharge end, the mouth of the screen housing is closed by a cone which moves back and forth on the screw shaft in proportion to the internal pressure in the screen frame. This motion is opposed by the cone air cylinder (or, counterweight) thrust, thereby regulating the discharge of solids. On air cylinder models, an air regulator is provided to adjust the pressure on the cone. The liquids, which are squeezed from the wet product, escape through the screen housing and are caught in a built-in pan under the screen.

The screw is driven by a fixed speed electric motor that is C-face mounted to a reducer. The hollowbore reducer mounts directly on the screw shaft and is flanged mounted to the machine.

The numbers in the model designation stand for the nominal diameter of the screw, in inches.

SECTION B - FOUNDATION AND MOUNTING

The installer should provide a substantial, rigid mounting structure. The press can be operated free-standing on a bench or table. For permanent installations, the supporting members should be firmly anchored to resist the torque reaction in the bedframe. The press should be evenly supported to avoid misalignment. Mounting should be accomplished by means of placing the proper shims at the bolting points so that the press bolts in place without distortion or racking of the screw press frame.

SECTION C - ELECTRICAL AND AIR SERVICE CONNECTION

Normally, the motor and a reversing switch are provided with the press, with a household 110 volt three-prong power cord.

Select and install electrical devices which are compatible with the electrical characteristics of the motor. The press requires the application of the specified rated voltage at the motor terminals under all operating conditions.

In making the electrical installation make certain that:

1) It conforms to the requirements of the National Electrical Code and the local codes.

2) The recommendations of the electrical device manufacturers are followed, particularly for protective features such as starter heaters or breakers.

The following service connections are required:

1) Electrical power for:

   Main Drive Motor: NEMA 1ph/110v/60hz unless specified otherwise

2) Supply Air, 0 to 100 - 125 psig, 1 to 2 CFM (with air cylinder option)

3) Water hose for wash down

After the electrical and air connections have been completed, check the direction of the shaft rotation. The press shaft must rotate COUNTER-CLOCKWISE when viewed from the drive end.

SECTION D - OPERATION-GENERAL

Before starting, be sure screens are bolted down and all fasteners are tight, and the cover is in place. Be sure no tools are left inside the press. Before starting for the first time, be sure the cone is lubricated and is free to move on the shaft.

The press is tested, lubricated, and adjusted before shipment. The gearbox is shipped with oil filled to the proper level, and should be checked in accordance with the manufacture's instructions before operation. Check for the proper screw rotation, "COUNTER-CLOCKWISE" when viewed from the drive end.

To operate the press, start the main drive motor. When it is evident the cone has been adequately lubricated to allow free movement of the cone, either adjust the air pressure regulator to 10 psi on the press, or load minimal weights on the lever arm. Advance the cone until it completely closes the discharge opening. Start feeding the press. The compressed product will soon be forced out around the cone, pushing the cone back against its air cushion, until a condition of equilibrium is established for that particular air pressure.

If the cake does not discharge freely enough, the cone should be opened. Or, if the cake is too moist, the air pressure regulator (or weights) should be increased. All materials do not press alike, but, in general, the air pressure (weights) should be set as high as will permit a constant discharge of press cake all around the cone.

SECTION E - SAFETY

All electrical power and air service **MUST BE TURNED OFF** before any cleaning, maintenance or repairs are performed. **LOCK OUT** press electrical and air service by following plant safety procedures. This is done to be sure power or air is not accidentally restored to the press while it is being serviced. In order to avoid an unsafe or hazardous condition make certain that:

1) No hands or feet enter the inlet hopper at any time.
2) No hands or feet enter the discharge cone opening at any time.
3) Do not poke or prod material in the inlet or outlet of the press with a bar or stick.
4) All electrical covers are in place.
5) Loose clothing, such as ties, jackets, sweaters, or shirt tails are properly secured or removed.
6) Unit is mounted to a rigid and secured support, so it will not fall over.
7) All operators are thoroughly trained on operation and safety instructions.
8) All safety precautions and procedures are followed, and verified by plant safety personnel.

Failure to follow these instructions may result in personal injury or property damage.

SECTION F - CLEANING

After each production run, press cleaning procedures are as follows: Stop the feed to the press. When press cake has stopped discharging, move the cone back to it's retracted position and leave the screw turning until material no longer discharges. Turn off the motor and lock out the

electrical and air service. Isolate the drain pan lines and press cake discharge from the product line, if this is required by plant procedure.

Flush all residue of product from contact parts of the press using the standard plant cleaning procedures (water, caustic solution, steam, etc.). If so required, flush out residue from inside of the screen by first removing it. Inspect the screen frame flanges and screen for residue before reassembly to insure proper contact of the parts when assembled.

Care should be taken not to drive water into the motor, drive components, or the air cylinder. See the lubrication instructions before putting the press back in operation.

SECTION G - GENERAL PRECAUTIONS

The drive components furnished are of the highest quality and have been selected by the manufacturer for the rated loads of the machine. Life is directly affected by the care given in operation and adherence to the instructions given in this manual. Periodically check the components for signs of wear, damage, or impending failure. Do not operate the machine with a component having excessive wear, clearance, or damaged seals, as damage may occur to other press parts.

The screen should be carefully inspected to be sure that no damage has occurred during shipment and that the press is free from any foreign object. Check all points along entire length of the screw to see that the screen is not touching the screw. This could result in permanent damage to the screen. In the case of contact between the screw and the screen, it may be necessary to grind

material from the O.D. of the screw at the points of interference. The screen should be checked periodically for clearance, wear, and foreign objects.

During routine operation and maintenance, care should be taken to see that the press screen is in good condition and not in danger of failure due to neglect. Tramp materials such as metal, wood, rocks, and sand can damage or cause excessive wear on the screen and other press parts. Every precaution should be taken to remove such items from the feed material before they get into the press. The screen should be replaced when damaged or worn to the extent of impaired productivity. Care should be taken that all electrical and air service has been shut off.

SECTION H - MAINTENANCE AND LUBRICATION

1. Maintenance - General

The screw is supported by a hollowbore reducer on one end and a bearing on the other end. This bearing should be kept clean, properly lubricated, and inspected.

Between the reducer and the frame of the press is a lip seal, in a housing bolted to the outside of the inlet hopper A plate.

The cone may require lubrication through the grease fitting supplied.

2. Grease lubrication

Grease: Use a high-grade ball and roller bearing grease of NIGI No.1 or No. 2 consistency, with maximum resistance to water washout. Mobil Oil Company Mobiltemp Grease No. 1 or Shell Oil Company Darina No. 2 are suitable examples.

Application: The press should be running while grease is being added. One or two shots from a hand grease gun should provide sufficient lubricant. Familiarity with the machine will determine the exact amount required.

Frequency: The time interval from one application of grease to the next can only be determined from experience with the press in the environment in which it must operate. The ambient temperature, the temperature of the material being processed, and potential water or corrosive contamination are all factors which influence the frequency of lubrication. Re-greasing may vary from daily to weekly.

Excessive Lubrication: The application of a small amount of grease at short intervals is much more desirable than large amounts at long intervals. THE COMMON TENDENCY IS TO OVER-LUBRICATE. AVOID EXCESSIVE LUBRICATION.

SECTION I - ORDER INFORMATION

Before ordering replacement press parts, refer to the assembly drawing and parts list in the back of this manual. Specify the quantity, part name, press model, and the serial number of the press.

EXAMPLE:

One cone, For press Model #CP-4, Serial #96056-D

When ordering a replacement screen, also specify the wedgewire slot opening width.

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