

CHAPTER 1

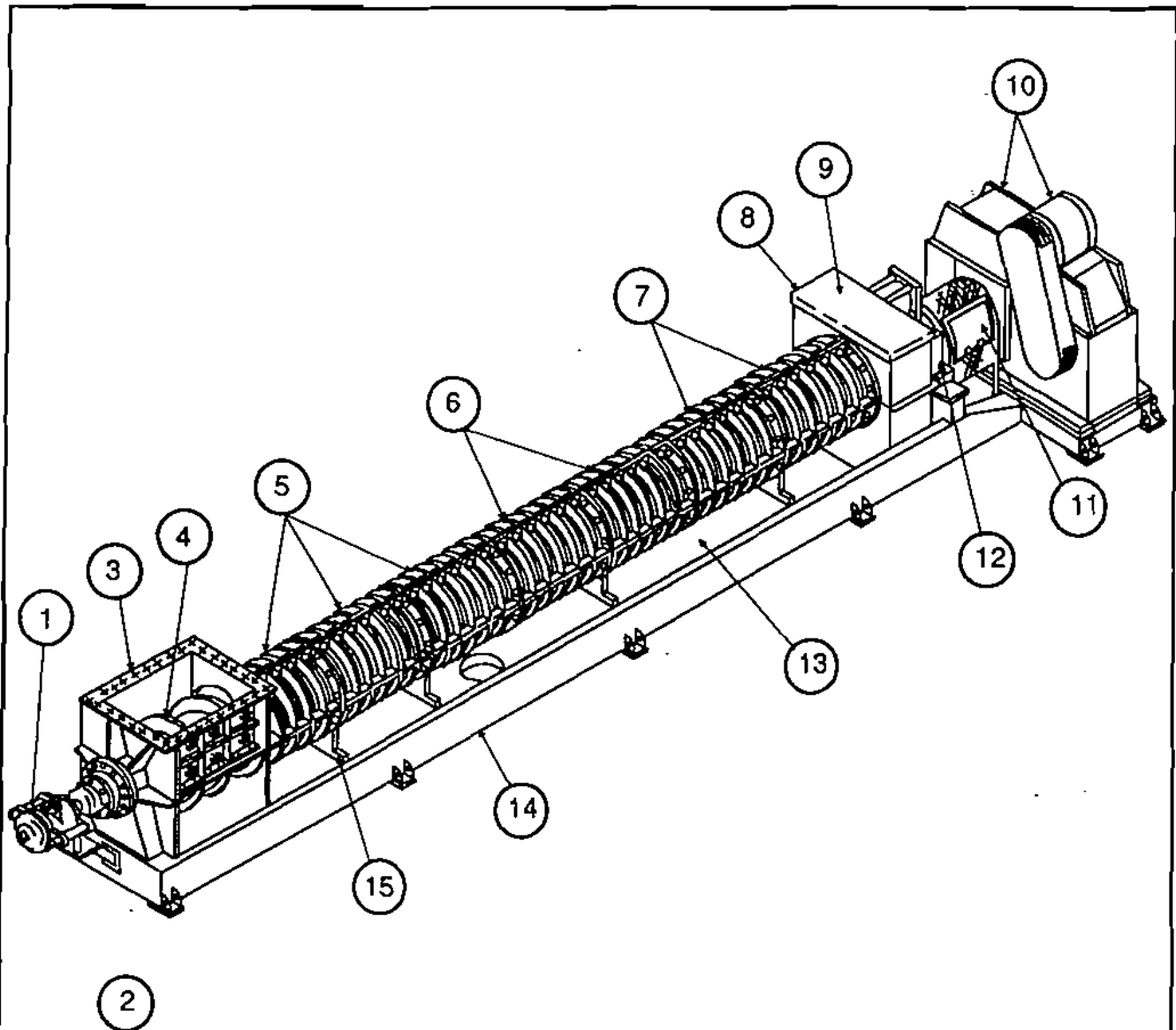
GENERAL DESCRIPTION AND SPECIFICATIONS

1.1 GENERAL DESCRIPTION

The ANDRITZ/Dupps 3600 Series Dewatering Presses are designed to remove liquid from paper waste sludge. The Dewatering Press performs one operation in the dewatering process, producing a dry cake suitable for landfill or boiler fuel.

Pre-thickened sludge material enters the feed hopper. Flights on the rotating press shaft convey the material toward the discharge box. As the sludge moves toward the discharge box, compression resulting from the increasing root diameter of the press shaft forces the water through the screens surrounding the shaft. A pneumatically controlled, adjustable choke at the press discharge allows the operator to control the amount of pressure exerted on the cake. The dried cake is discharged at the choke and drops into the discharge box. Liquid pressed out of the cake is collected in the liquid drain pan and discharges through a suitable flanged opening.

Figure 1.1-1 identifies the major press components.



- | | |
|----------------------------|-------------------------------|
| 1. Steam Joint | 9. Choke Assembly (not shown) |
| 2. Thrust Bearing Assembly | 10. Motor and Gear Box |
| 3. Feed Hopper | 11. Drive Coupling |
| 4. Press Shaft | 12. Pillow Block Bearing |
| 5. Primary Cages | 13. Liquid Drain Pan |
| 6. Intermediate Cages | 14. Underframe |
| 7. Discharge Cages | 15. Cage Adjustment |
| 8. Discharge Box | |

WARNING - ILLUSTRATION: To clearly show certain details in the illustration, the press may be shown with some covers, guards, or other safety equipment removed or in the open position. Be sure all covers and guards are in place before operating the press. Failure to follow this instruction can result in serious personal injury.

Figure 1.1-1
Andritz/Dupps 3600 Series Dewatering Press

1.2 GENERAL SPECIFICATIONS

This section lists the general specifications for the 3600 Series Dewatering Presses. Full specifications for each press component are listed in the next section.

SPECIFICATION	PRESS MODEL		
	3632	3628	3624
Length	47'1"	43'0"	38'11"
Width	8'11"	8'11"	8'11"
Height	7'9"	7'9"	7'9"
Dry Weight	73,000 lb	68,000 lb	63,000 lb
Operating Weight	83,000 lb	77,000 lb	71,000 lb
Drive Hp	40 hp	40 hp	40 hp

1.3 COMPONENT SPECIFICATIONS

The mechanical specifications of the press are listed below. Required steam, compressed air, and electrical power are listed in Section 1.4.

COMPONENT	MACHINE MODEL		
	3632	3628	3624
FEED HOPPER:			
Material	304 SS	304 SS	304 SS
PRESS SHAFT:			
Material	304L SS	304L SS	304L SS
Overall Length	39'7"	35'6"	31'5"
Flight Diameter	35-7/8"	35-7/8"	35-7/8"
Weight	22,000 lb	18,900 lb	15,700 lb
Max Steam Pressure	15 psig	15 psig	15 psig
CAGES:			
Material	304 SS	304 SS	304 SS
Length	49"	49"	49"
Cage Half Weight:			
Less Screens	650 lb	650 lb	650 lb
Max W/Screens	800 lb	800 lb	800 lb
Cage Shims:			
Material	304 SS	304 SS	304 SS
Thickness	1/16"	1/16"	1/16"
Inner Screens:			
Material	304 SS	304 SS	304 SS
Thickness	1/8"	1/8"	1/8"
Backup Screens:			
Material	304 SS	304 SS	304 SS
Thickness:			
Intermediate	1/4"	1/4"	1/4"
Discharge	3/8"	3/8"	3/8"
CHOKE:			
Material	304 SS	304 SS	304 SS
Pneumatic Cyl (See Appendix A)			
STEAM JOINT: (See Appendix A)			
GEAR BOX: (See Appendix A)			
Ratio	772:1	772:1	772:1
Power Rating @ 1750 rpm input	40 hp	40 hp	40 hp
Service Factor	1.75	1.75	1.75
Output Speed @ 1750 rpm input	2.27 rpm	2.27 rpm	2.27 rpm
Output Torque (lb-in)	1,840,000	1,840,000	1,840,000
Oil Capacity, approx.	225 gal	225 gal	225 gal
DRIVE COUPLING: (See Appendix A)			
DRIVE MOTOR:			
Power	40 hp	40 hp	40 hp
Speed	1750 rpm	1750 rpm	1750 rpm
Frame	324T	324T	324T

1.4 INSTALLATION INFORMATION

UTILITY REQUIREMENTS The 3600 Series Dewatering Press requires the following utility supplies:

Electrical:

Volts: 460
Amps: 50
Hertz: 60

Compressed Air:

Start-up: 40 scfm @ 100 psi
Operating: 5 scfm @ 100 psi

Steam (optional):

2500 lbs/hr @ 15 psig max.

NOTE: If the press is to be operated without steam applied to the shaft, remove the rotary steam joint before putting the press into service. Operating the rotary steam joint without steam will damage the seals in the steam joint.

CONNECTIONS The sizes and types of connections for the utilities are:

Compressed Air Inlet: 3/4" NPTF

Steam Inlet: 3" NPTF

Condensate Drain: 1 1/2" NPTF

The piping required for the steam inlet and condensate drain is shown schematically in Figure 1.4-1. The figure also lists the materials required for proper connection to the facility supply and drain.

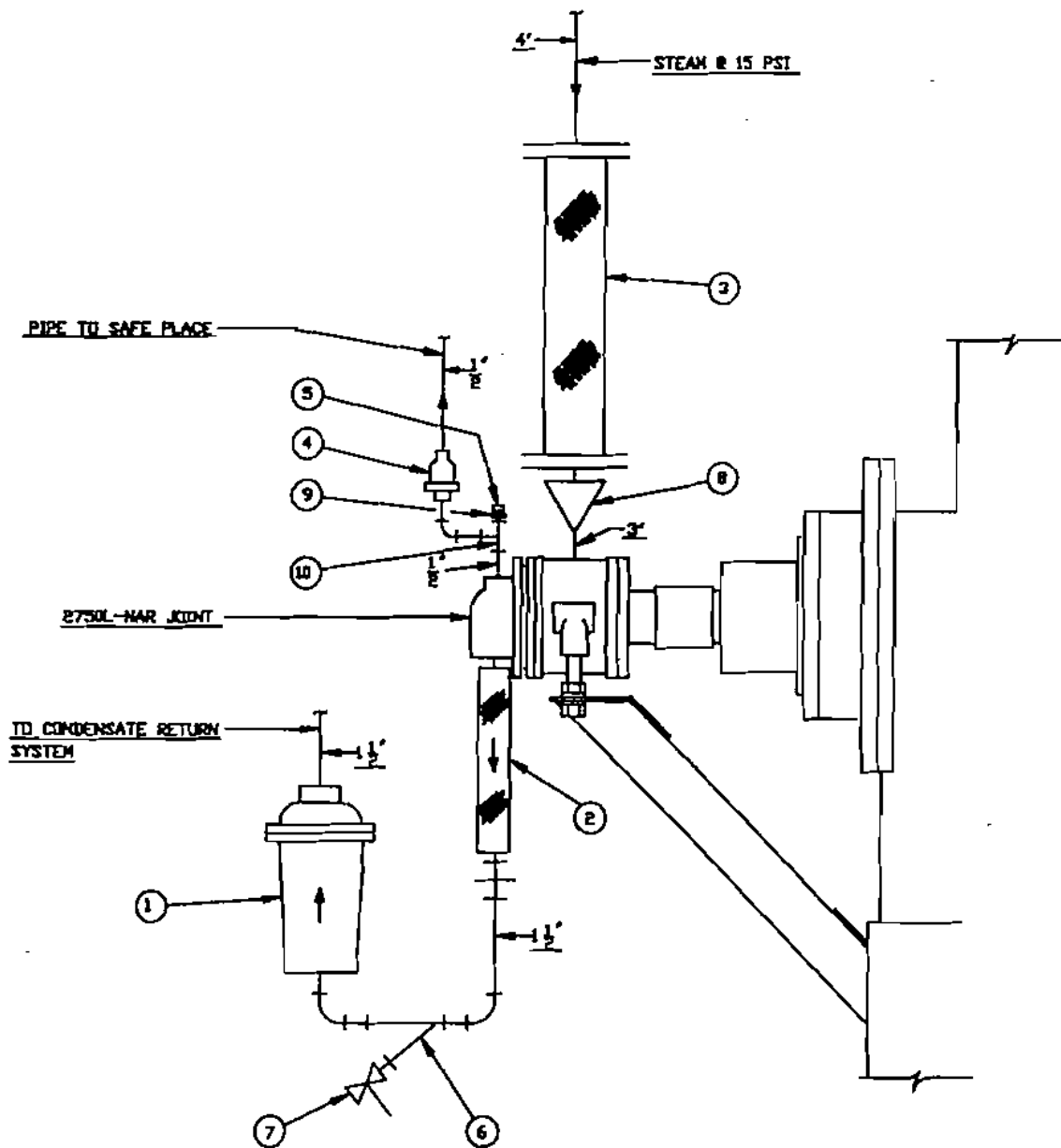
WORKING CLEARANCES Figure 1.4-2 shows minimum working clearances required to perform maintenance on the press.

LIFTING THE PRESS The press can be lifted by means of an overhead device attached to the lifting shackles (see Figure 6.3-1) at the four lift points provided in the underframe. Remove the gear box prior to lifting in this manner. If the gear box is mounted on the underframe when the press is lifted, the cantilevered weight of the gearbox could damage the underframe. The weight of the press without the gear box is as follows:

Model 3632: 58,000 lb

Model 3628: 53,000 lb

Model 3624: 48,000 lb



REF QTY DESCRIPTION

REF	QTY	DESCRIPTION
1	1	1 1/2" #215 Armstrong Inverted Bucket Steam Trap with 3/4" Orifice & Internal Check Valve
2	1	1 1/2"x18" OAL SS Braided Hose w/NPT Nipples
3	1	4"x27" OAL SS Braided Hose w/Flanges
4	1	1/2" Erwel #AS-225 Thermostatic Air Vent
5	1	1/2" Johnson #VB8-51-BR-TSE Vacuum Breaker
6	1	1 1/2" "Y" Strainer
7	1	Strainer Blowout Valve
8	1	4"x3" Std Concentric Weld Reducer
9	1	3/4"x1/2" Pipe Bushing
10	1	3/4"x1/2"x1/2" Blk 150 lb Reducing Tee

Figure 1.4-1
Steam and Condensate Piping Requirement

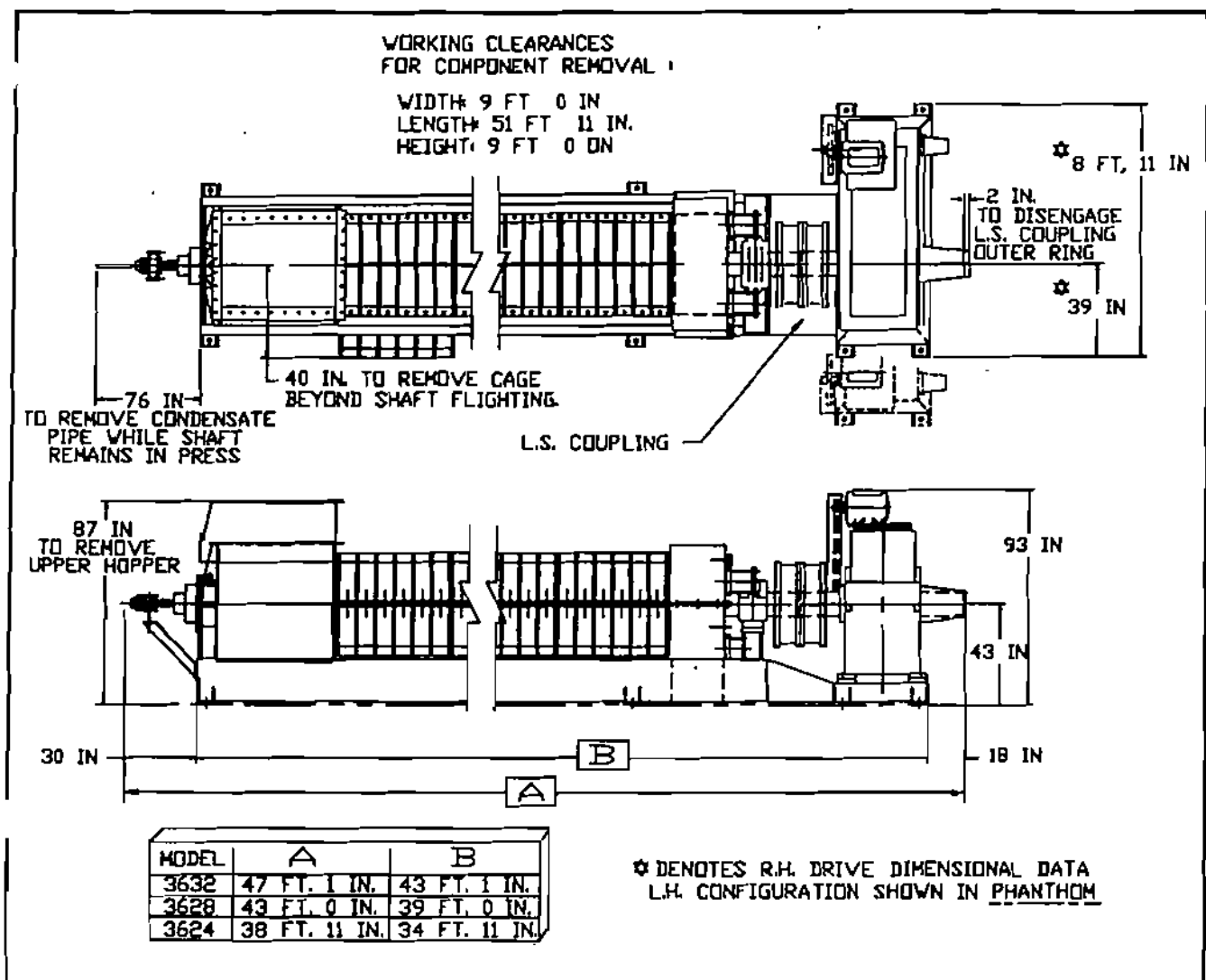


Figure 1.4-2
Working Clearances

Use a spreader beam to obtain vertical lifting at all four lift points. Make sure the chains or cables used for lifting do not contact the cage covers. This condition could result in damage to the covers or their supporting framework.

CAUTION: Remove the gear box before lifting the press with an overhead device. Attach the lifting device at the four points provided. Use a spreader beam to obtain a vertical lift at all four lift points. Failure to follow this instruction can result in damage to the press.

REMOVAL OF SHIPPING BRACES

Four shipping braces protect the cages and cage adjustment assemblies from damage during shipment. The braces are welded to the underframe at the locations of the innermost cage adjustment assemblies and bolted to the cages at the split flange. The words, "REMOVE BRACE SHIPPING ONLY", are stenciled on each brace.

After moving the press to its final position:

1. Remove the bolts securing the braces to the cage flange;

2. Cut the welds that secure the braces to the underframe;
3. Remove and discard the braces;
4. Re-install the flange bolts through the cage flanges, assemble the lock washers and nuts to the bolts, and torque the bolts according to the table in Section 5.1 of this manual.

GEARBOX LUBRICATION The gear box features oil dams to hold lubricant in the bearings when the shafts are not turning. Since the gearbox has been idle for an extended period during shipment these oil dams could be empty. Starting the unit with dry bearings will result in early bearing failure. Therefore, prior to starting the unit for the first time, remove the inspection cover and flood the oil troughs and the input shaft bearings with oil. Install the inspection plate.

Check the level of the lubricant in the gearbox. If it is low, add oil to the level marked on the dipstick.

Refer to Chapter 2 for recommended lubricants. See The manufacturer's literature in Appendix A for further information on gear box maintenance.