

4491



CLEARANCE DIMENSIONS FOR MP800 SHORT HEAD CONE CRUSHER TO COEUR ROCHESTER

P0303801

PAGE 1/2

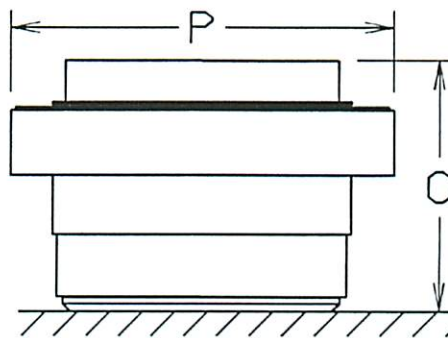
PREPARED BY JPM APPROVED BY DMK

PROPRIETARY CODE G

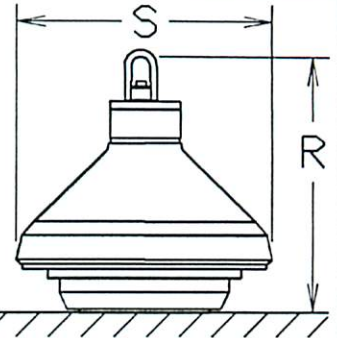
DATE OF ISSUE
10FEB03

REV 00 DATE
OM:

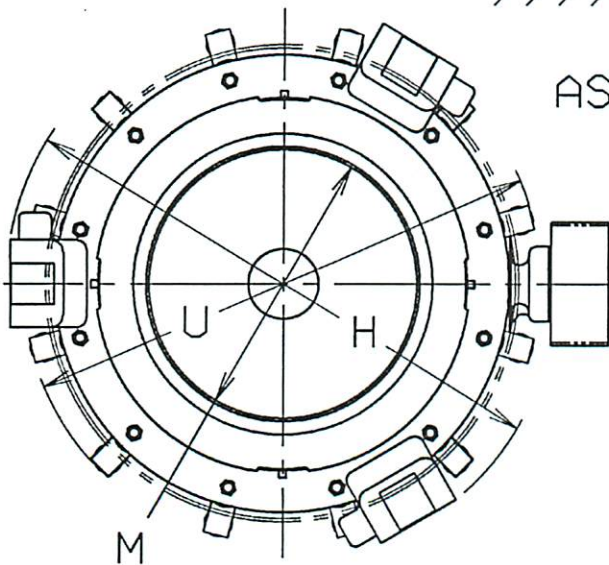
CERTIFIED
FOR CONSTRUCTION
APPROVED JPM
DATE 10FEB03
 metso minerals
Milwaukee, WI USA



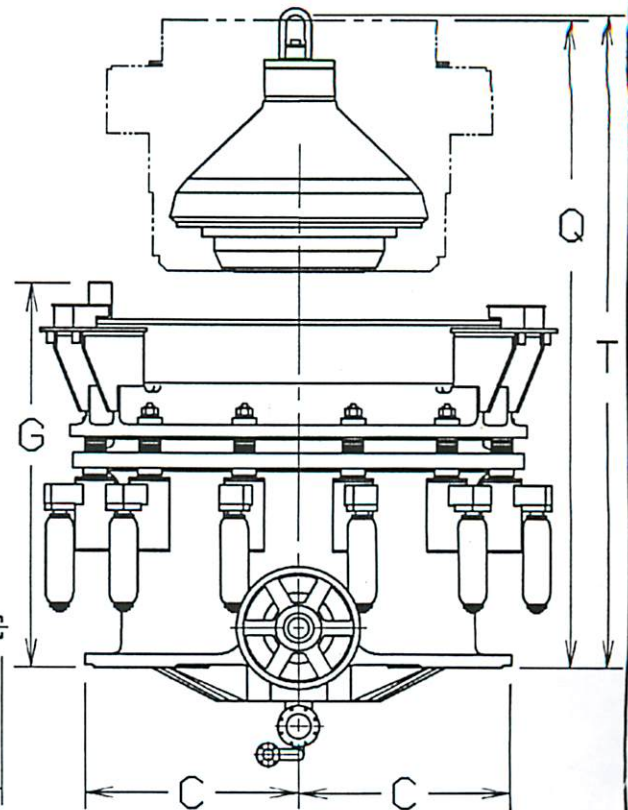
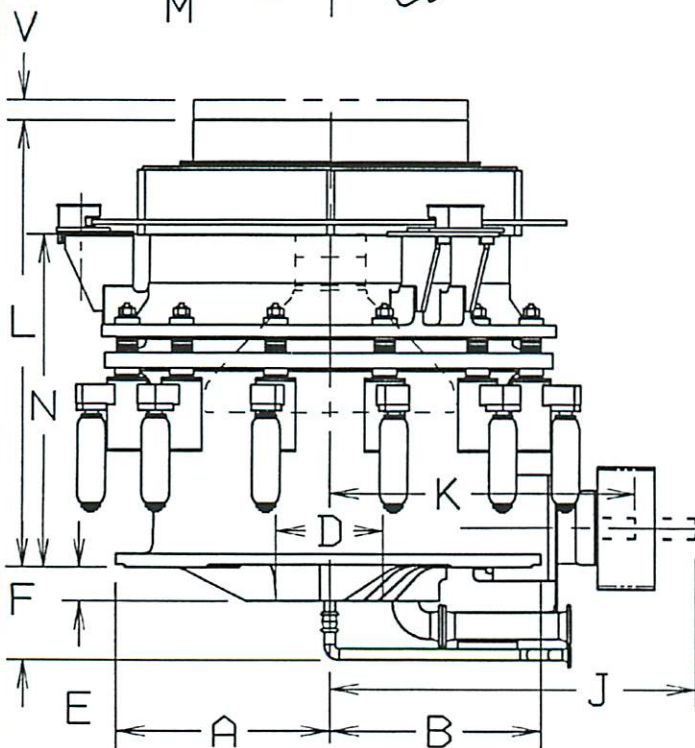
BOWL
ASSEMBLY



HEAD
ASSEMBLY




RECEIVED BY
AUG 08 2003
W. S. GILMER



THE INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPRIETARY TO METSO MINERALS AND IS NOT TO BE REPRODUCED, DISCLOSED TO A THIRD PARTY, MODIFIED OR USED WITHOUT PRIOR PERMISSION OF METSO MINERALS OR ITS DULY AUTHORIZED REPRESENTATIVE. ALL RIGHTS RESERVED. (8/01)

4491
 THE INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPRIETARY TO METSO MINERALS AND IS NOT TO BE REPRODUCED, DISCLOSED TO A THIRD PARTY, MODIFIED OR USED WITHOUT PRIOR PERMISSION OF METSO MINERALS OR ITS DULY AUTHORIZED REPRESENTATIVE. (8/01)

		CLEARANCE DIMENSIONS FOR MP800 SHORT HEAD CONE CRUSHER TO COEUR ROCHESTER	P0303801 PAGE 2/2 PROPRIETARY CODE G
PREPARED BY JPM	APPROVED BY DMK	RECEIVED BY	
DATE OF ISSUE 10FEB03			REV 00 DATE OM:

SEE PAGE 1 FOR FIGURE. AUG 08 2003

	MILLIMETERS	(INCHES)
W. S. GILMER		
A MAIN FRAME FLANGE -----	1750	(68.90")
B MAIN FRAME FLANGE -----	1750	(68.90")
C MAIN FRAME FLANGE -----	1750	(68.90")
D MAIN FRAME HUB DIAMETER -----	875	(34.45")
E TO BOTTOM OF MAIN FRAME HUB -----	280	(11.02")
F TO BOTTOM OF OIL PIPING -----	762	(30.00")
G TO TOP OF TURNING BRACKETS -----	3385	(133.27")
H ADJUSTMENT RING MAXIMUM DIAMETER -----	4550	(179.13")
I CLEARANCE REQUIRED FOR REMOVING COUNTERSHAFT ASSEMBLY -----	3881	(152.80")
J TO END OF COUNTERSHAFT -----	2538	(99.92")
K MAXIMUM HEIGHT TO TOP OF FEED HOPPER -----	3752	(147.72")
L INSIDE DIAMETER OF FEED HOPPER -----	2110	(83.07")
M TO TOP OF FEED PLATE -----	2758	(108.58")
N OVERALL HEIGHT OF BOWL ASSEMBLY -----	1964	(77.32")
O ADJUSTMENT CAP MAXIMUM DIAMETER -----	3170	(124.80")
P CLEARANCE REQUIRED FOR REMOVING BOWL ASSEMBLY -----	5399	(212.56")
Q OVERALL HEIGHT OF HEAD ASSEMBLY -----	2110	(83.07")
R HEAD OR MANTLE MAXIMUM DIAMETER -----	2083	(82.01")
S CLEARANCE REQUIRED FOR REMOVING HEAD ASSEMBLY -----	5545	(218.31")
T TRAMP RELEASE SIDE TO SIDE -----	4280	(168.50")
V ADDITIONAL UPWARD TRAVEL DUE TO CLEARING STROKE -----	163	(6.42")

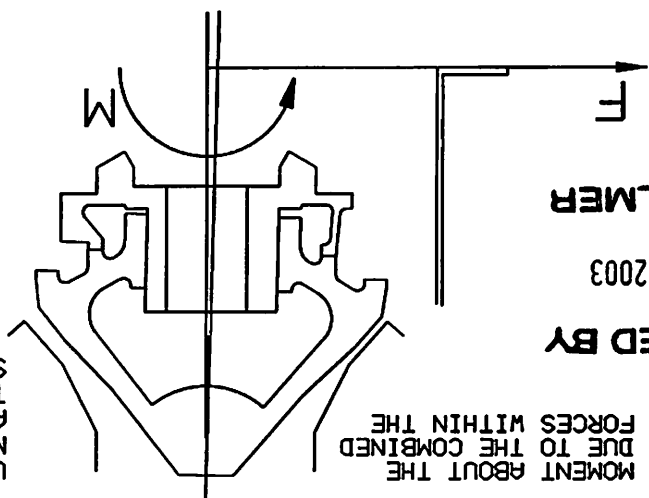
THE INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPRIETARY TO METSO MINERALS AND IS NOT TO BE REPRODUCED, DISCLOSED TO A THIRD PARTY, MODIFIED OR USED WITHOUT PRIOR PERMISSION OF METSO MINERALS OR ITS DULY AUTHORIZED REPRESENTATIVE. ALL RIGHTS RESERVED. (6/701)



PREPARED BY JPM
 APPROVED BY DMK
 DATE OF ISSUE 10FEB03

RECEIVED BY
 AUG 08 2003
 W. S. GILMER

"M" IS THE MOMENT ABOUT THE MAIN FRAME DUE TO THE COMBINED UNBALANCED FORCES WITHIN THE CRUSHER.



UNBALANCED FORCE AND MOMENT ROTATE ABOUT THE CENTRELINE OF THE CRUSHER AT THE ECCENTRIC SPEED (RPM)

CERTIFIED FOR CONSTRUCTION
 APPROVED JPM
 DATE 10FEB03

 Metso Minerals, U.S.A.

COUNTERSHAFT SPEED (RPM)	685-890	METRIC
ECCENTRIC SPEED (RPM)	255-332	
MAXIMUM CALCULATED NET UNBALANCED FORCE "F" NET NEW VS WORN LINERS	NEW 24,000 WORN -22,900 POUNDS	NEW 106,800 WORN -101,900 NEWTONS
CRUSHER MASS	265,850 POUNDS	120,570 KILOGRAMS
MAXIMUM "M" MOMENT	NEW 348,500 WORN 112,800 POUND-FEET	NEW 472,500 WORN 153,100 NEWTON-METERS
COUNTERSHAFT	10,162 POUNDS-FT ²	4200 NEWTON-METERS ²
CRUSHER SHEAVE	1494 POUNDS-FT ²	617 NEWTON-METERS ²
COUNTERSHAFT & CRUSHER SHEAVE	11,656 POUNDS-FT ²	4817 NEWTON-METERS ²

MAXIMUM NET UNBALANCED FORCE AND MOMENT TAKE INTO CONSIDERATION FULL RANGE OF LINER WEAR AND MAXIMUM ECCENTRIC SPEED SHOWN ABOVE.
 CAUTION: ADDITIONAL VERTICAL FORCES MAY RESULT FROM IMPACT OF ADJUSTMENT RING DURING PASSING OF TRAMP IRON.

FORCES AND MOMENTS SHOWN ARE CALCULATED NOMINAL HARMONIC VALUES DUE TO MOTION OF CRUSHER PARTS. THE CALCULATED VALUES ARE BASED ON RIGID BODY DYNAMICS OF THE CRUSHER ON A RIGID FOUNDATION AND DO NOT ACCOUNT FOR ANY MAGNIFICATION DUE TO STRUCTURE COMPLIANCE. A MINIMUM FOUNDATION DESIGN SAFETY FACTOR OF 1.5 IS RECOMMENDED TO ACCOUNT FOR VARIATIONS, VIBRATION, SHOCK AND IMPACT LOADS. FOUNDATION DESIGN SHOULD LIMIT DYNAMIC DISPLACEMENTS TO ACCEPTABLE LEVELS INCLUDING OWNER PERCEPTIONS AS WELL AS TO INSURE STRUCTURAL RELIABILITY.

P0303803
 PAGE 1/1
 PROPRIETARY CODE P
 REV 00 DATE
 OM:

MP800 CRUSHER UNBALANCED FORCES & WR²
 FOR COUNTERWEIGHT 86428472

4491
THE INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPRIETARY TO METSO MINERALS AND IS NOT TO BE REPRODUCED, DISCLOSED TO A THIRD PARTY, MODIFIED OR USED WITHOUT PRIOR PERMISSION OF METSO MINERALS OR ITS DULY AUTHORIZED REPRESENTATIVE. ALL RIGHTS RESERVED. (8701)

metso minerals
PREPARED BY JPM APPROVED BY DMK
DATE OF ISSUE 10FEB03

OIL DRAIN LINE TRAP FOR MP800 CONE CRUSHER TO COEUR ROCHESTER

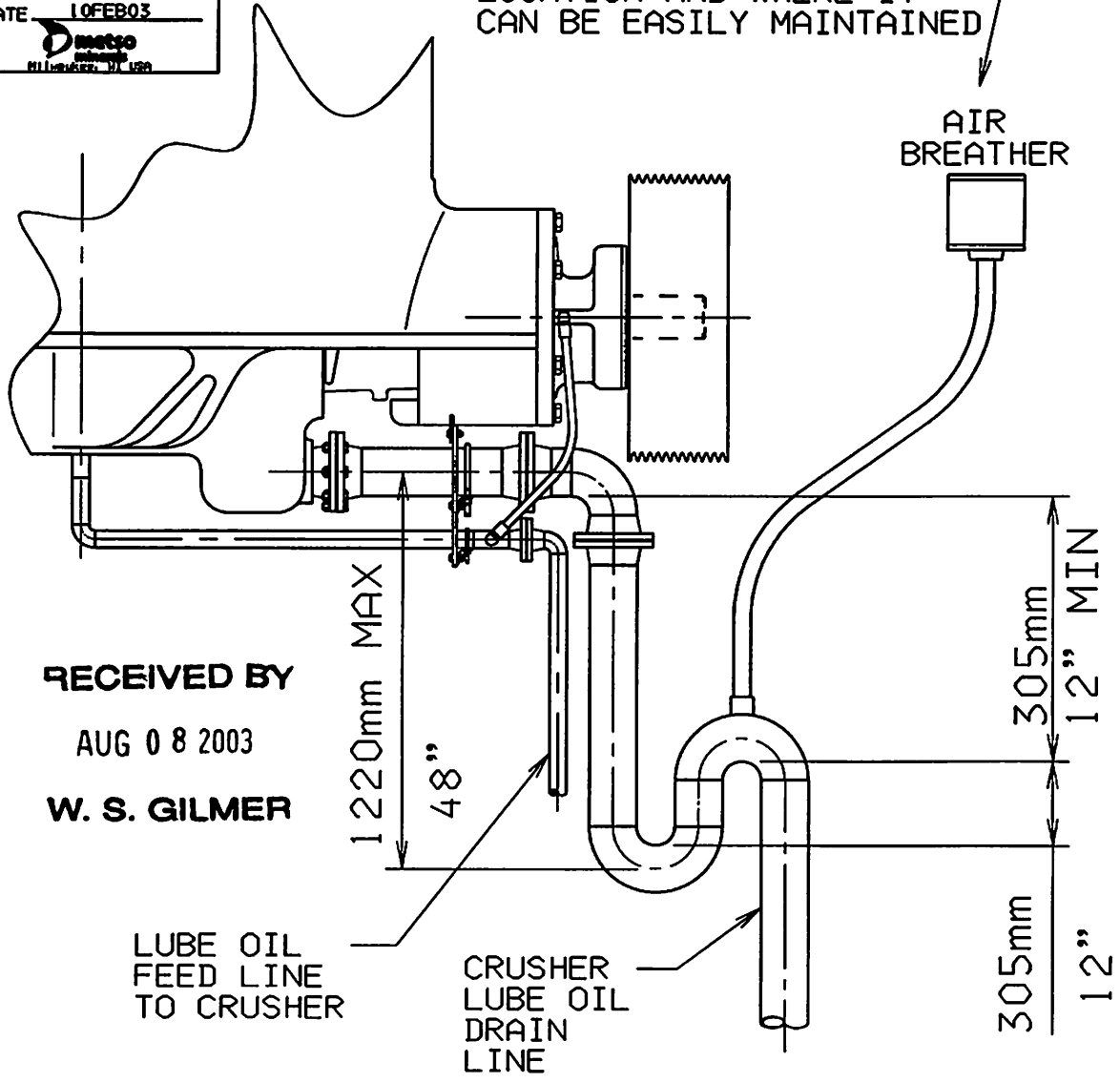
P0303804
PAGE 1/1
PROPRIETARY CODE G
REV 00 DATE
OM:

IF CRUSHER DRAIN LINE CONTAINS A VERTICAL DROP OR IS ORIENTATED WITHIN 45° OF VERTICAL AND THAT SECTION HAS A VERTICAL DROP OF MORE THAN 1220mm (48"), THEN A TRAP MUST BE INSTALLED AS SHOWN BELOW.

IF THE TRAP IS NOT INSTALLED, THE RUSH OF OIL DOWN THE DRAIN LINE CAN PULL AIR AND DUST THROUGH THE SEALS AND CAUSE EXCESSIVE INTERNAL WEAR AND POSSIBLE BEARING FAILURE.

CERTIFIED FOR CONSTRUCTION
APPROVED JPM
DATE 10FEB03
metso minerals
ILLUSTRATED BY USA

PLACE AIR BREATHER IN A RELATIVELY DUST FREE LOCATION AND WHERE IT CAN BE EASILY MAINTAINED



RECEIVED BY
AUG 08 2003
W. S. GILMER



SOLE PLATE INSTALLATION FOR MP800 SHORT HEAD CONE CRUSHER TO COEUR ROCHESTER

P0303805

PAGE 1 / 3

PREPARED BY JPM APPROVED BY DMK

PROPRIETARY CODE G

DATE OF ISSUE
10FEB03

REV 00 DATE
OM:



The following instructions are for sole plates supplied by Metso only.

Special Epoxy Grouting Required

Use a high performance grout, which has a high compressive and tensile strength combined with a relatively low modulus of elasticity and hardness. The grout should have the following physical properties:

- Compressive Strength ----- 16,000 PSI min.*
- Tensile Strength ----- 4,200 PSI min.
- Compression Modulus ----- 533,000 PSI max
- Hardness (Shore D) ----- 95 max

* Do not install the Crusher until the epoxy reaches a minimum of 15,000 PSI compressive strength.

Two grouts that meets the above parameters are Metso Minerals Max grout (P/N 0482 9213) and Unisorb's "Standard V-100" Epoxy Grouting. For volume of grouting required see Table 1. Volume is based on Crusher foundation drawing discharge opening size and sketch on page 3.

Table 1: Volume of Epoxy Grouting Needed

Crusher	Volume of Epoxy Grouting
MP800	5700 in ³ (93,400 cm ³)

General

When mounting the Crusher Main Frame on Sole Plates, the Sole Plates must be grouted into place.

Epoxy grout is a tough, resilient, vibration resistant material that is readily available in various size kit forms. Each kit consists of an epoxy and a hardener that are mixed at the job site according to the simple directions included in each kit. The preparation instructions supplied with the grout must be followed. Special care should be taken on the preparation of the concrete surface and the forms.

RECEIVED BY
AUG 08 2003
W. S. GILMER



PREPARED BY
JPM

APPROVED BY
DMK

DATE OF ISSUE
10FEB03

SOLE PLATE INSTALLATION FOR MP800 SHORT HEAD CONE CRUSHER TO COEUR ROCHESTER

P0303805

PAGE 2 / 3

PROPRIETARY CODE G

REV 00	DATE
OM:	

Installation of Sole Plates

1. Remove all primer, paint or rust preventative from all surfaces of the Sole Plates.
2. Place the Sole Plates in the pockets of the foundation as shown on page 3, making sure the machined surface with the part number stamped on it is facing up.
3. Using the jacking screws in the Sole Plates, level each Sole Plate, making sure all four corners are within 0.25mm (0.010") of all the other Sole Plates, leaving the desired epoxy thickness between the Sole Plate and the foundation.
4. Construct any forms that may be necessary along the inside of the foundation to contain the epoxy. Use 25mm x 125mm (1" x 5") wood strips for the forms. Also construct a form to keep the epoxy from running down into the bolt hole in the foundation.
5. Thoroughly wax all forms with three coats of ordinary paste wax. This will prevent the forms from sticking to the epoxy. Seal all joints and seams with caulking compound to prevent leakage of the epoxy during pouring.
6. Mix and pour the epoxy following instructions on the kit. Multiple pours may be required depending on the maximum allowable pour depth of the particular epoxy being used. To prevent air entrapment under the Sole Plate, pour the epoxy from one place at a time, allowing the epoxy to cover an area of approximately 0.6 meters (2 feet) on either side of the pouring spot. Then move to a position where the previous pour flow has stopped and pour again. Continue this procedure until grouting is complete. Do not pour epoxy into more than one area at a time.
7. After the epoxy has cured (check grout instructions for estimated cure time), remove the forms.
8. After the epoxy reaches a minimum of 15,000 PSI compressive strength, the Crusher can be installed. Use shims (if required) to eliminate any gaps between the Crusher mounting pads and the Sole Plates greater than 0.25 mm (0.010").

RECEIVED BY
AUG 08 2003
W. S. GILMER

4491



SOLE PLATE INSTALLATION FOR MP800 SHORT HEAD CONE CRUSHER TO COEUR ROCHESTER

P0303805

PAGE 3 / 3

PREPARED BY JPM

APPROVED BY DMK

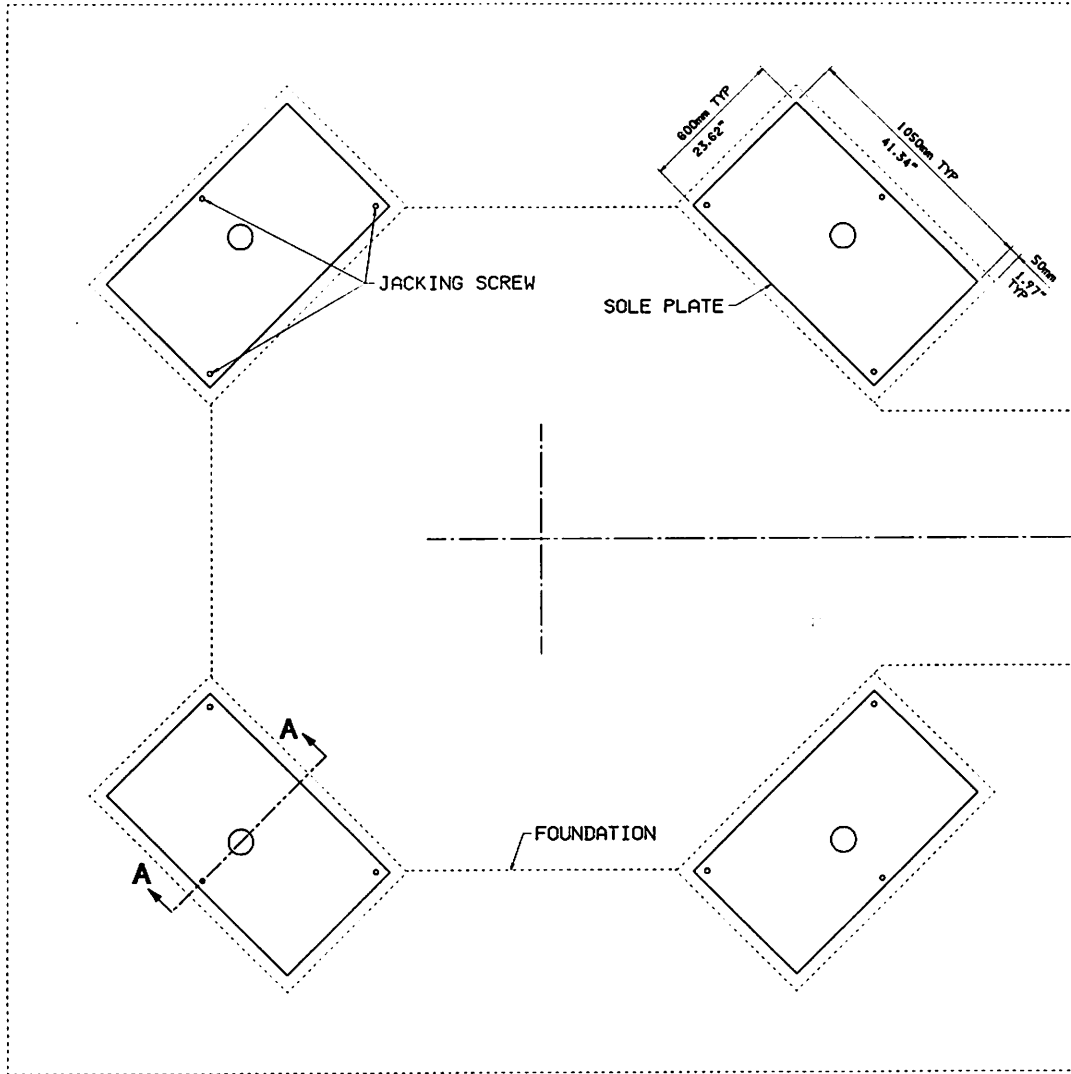
PROPRIETARY CODE G

DATE OF ISSUE
10FEB03

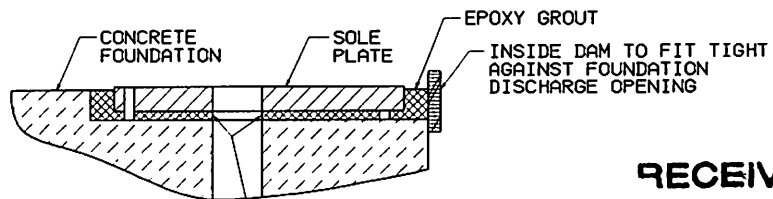
REV 00
OM:

DATE

MP800



NOTE: REFER TO THE MP800 MOUNTING & CLEARANCE DRAWING FOR DIMENSIONAL INFORMATION.



SECTION A-A

DAM THIS AREA FROM GOING DOWN THE BOLT HOLE

RECEIVED BY

AUG 08 2003

W. S. GILMER

THE INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPRIETARY TO METSO MINERALS AND IS NOT TO BE REPRODUCED, DISCLOSED TO A THIRD PARTY, MODIFIED OR USED WITHOUT PRIOR PERMISSION OF METSO MINERALS OR ITS DULY AUTHORIZED REPRESENTATIVE. ALL RIGHTS RESERVED. (9/01)



PREPARED BY JPM APPROVED BY DMK

DATE OF ISSUE
10FEB03

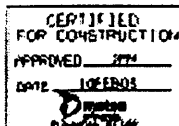
**WEIGHTS FOR MP800
SHORT HEAD CONE CRUSHER
TO COEUR ROCHESTER**

P0303802

PAGE 1 / 1

PROPRIETARY CODE G

REV 00 DATE
OM:

**RECEIVED BY**

AUG 08 2003

W. S. GILMER

Weight of complete Crusher and weights of Assemblies that require frequent handling	Kilograms	Pounds	
Crusher complete (Without Power Unit/Pkg Lube/Air Coolers)	120,570	265,850	
Adjustment Ring, Clamping Ring, Clamping Cylinders and Adjustment Mechanism	17,157	37,825	
Main Frame (Including Main Shaft and Main Frame Liners)	41,450	91,400	
Bowl Assembly (Including Bowl Liner, Adjustment Cap and Hopper)	26,000	57,340	
Head Assembly (Including Mantle and Feed Plate)	15,960	35,200	
Countershaft Box Assembly with Crusher Sheave	3,195	7,045	
Eccentric Assembly (Including Counterweight)	7,300	16,093	
Socket	355	785	
Socket Liner	235	520	
Mantle	6,000	13,320	
Bowl Liner	7,460	16,450	
Tramp Release Cylinder Assembly (Including Accumulator)	453	1,000	
Hydraulic Power Unit	Dry Weight (no oil)	1,125	2,480
	Weight w/full tank (659 L)(174 Gal)	1,701	3,750
Package Lube System (Air Cooled)	Dry Weight (no oil)	3,492	7,700
	Weight w/full tank (1,893 L)(500 Gal)	5,125	11,300
Skid Mounted Air Cooler Package	Dry Weight (no oil)	2,087	4,600
	Wet Weight	2,313	5,100

Note: Since various assembly combinations are available in each Crusher size, and because of manufacturing variations, the weights shown above are approximate.

All weights can vary \pm 5%