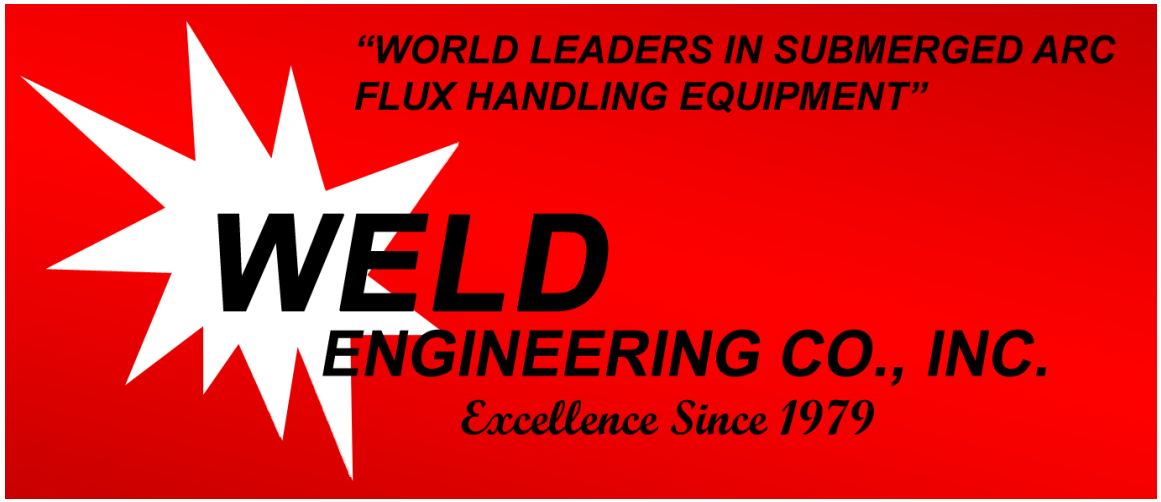

TB-MM708
STANDARD DUTY
SYSTEM DIAGRAMS

WELD ENGINEERING CO., INC.
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"MANUFACTURERS OF THE MOST COMPLETE LINE OF FLUX HANDLING EQUIPMENT IN THE WORLD"

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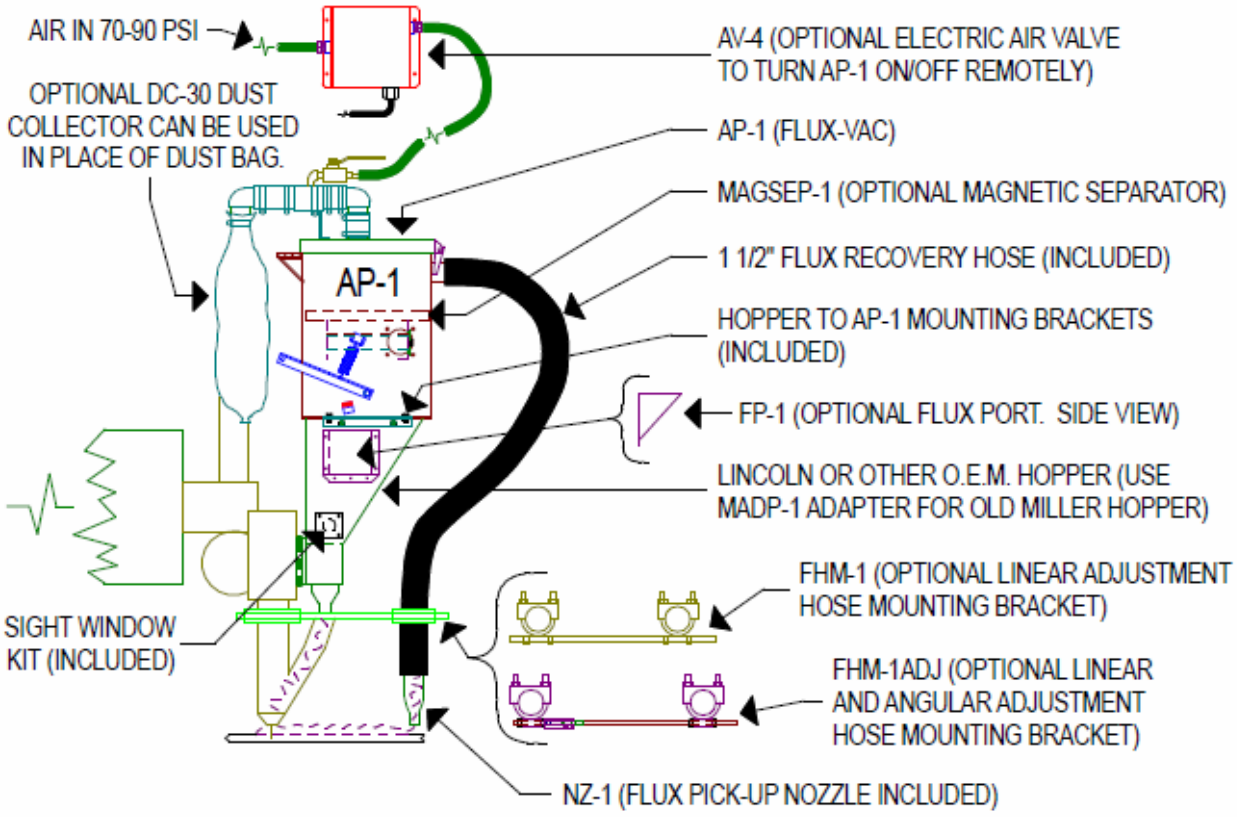
FIG. 1

AP-1 FLUX-VAC MOUNTED TO LINCOLN OR OTHER O.E.M. AUTOMATIC WELDING EQUIPMENT.



RECOMMENDED SYSTEM ORDER LIST:

1) AP-1 (FLUX-VAC)
   INCLUDED WITH AP-1 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FP-1 (FLUX PORT ENABLES LOADING OF FLUX WITHOUT INTERRUPTING WELDING).

4) OPTIONAL MADP-1 (ADAPTER PLATE USED ONLY IF MOUNTING ON OLD MILLER HOPPER).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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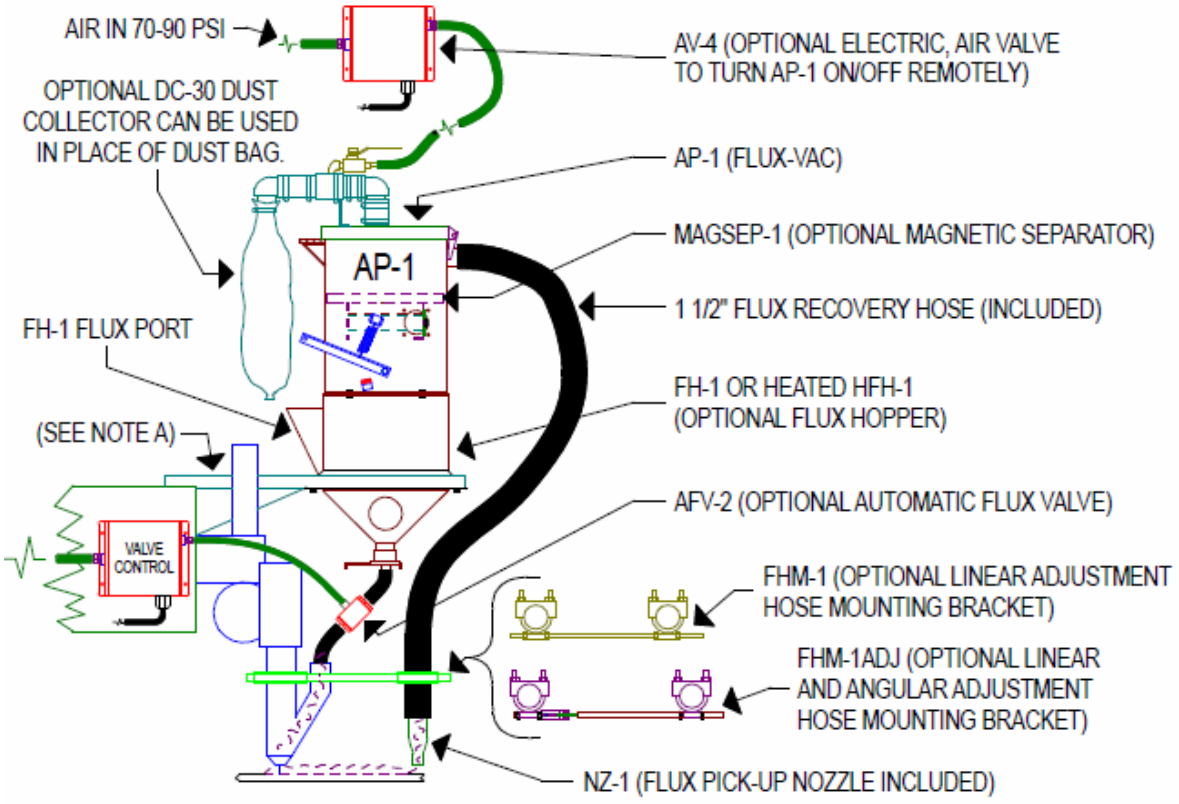
FIG. 2

AP-1 FLUX-VAC MOUNTED TO OPTIONAL FH-1 OR HEATED HFH-1 FLUX HOPPER. (40 LBS. CAPACITY)



NOTE A: MOUNTING FRAME

CUSTOMER PROVIDES MOUNTING FRAME FROM FLUX HOPPER TO WELDING HEAD.

RECOMMENDED SYSTEM ORDER LIST:

1) AP-1 (FLUX-VAC)
   INCLUDED WITH AP-1 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FH-1 OR HEATED HFH-1 (FLUX HOPPER).

4) OPTIONAL AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL).

5) OPTIONAL (MAGSEP-1 MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

BULLETIN: (PAGE 1) TB-708
FILE: 01~ AP-1 TB-DRT 7-25-2008.CAD
REVISED: AP1-TB.DWG (1-6-1994 TB-MM394)
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DRT 8-4-2008

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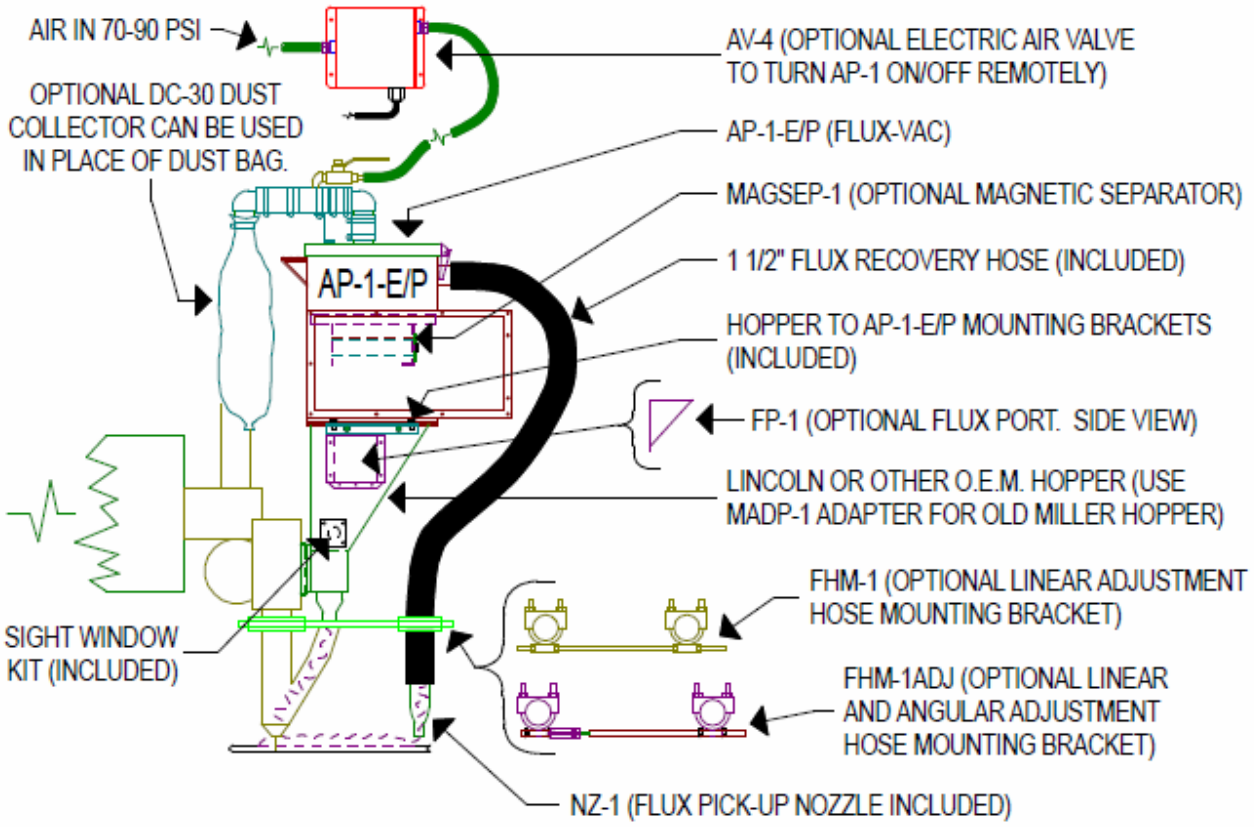
FIG. 3:

AP-1-E/P FLUX-VAC MOUNTED TO LINCOLN OR OTHER O.E.M. AUTOMATIC WELDING EQUIPMENT.



RECOMMENDED SYSTEM ORDER LIST:

1) AP-1-E/P (FLUX-VAC)
   INCLUDED WITH AP-1-E/P AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FP-1 (FLUX PORT ENABLES LOADING OF FLUX WITHOUT INTERRUPTING WELDING).

4) OPTIONAL MADP-1 (ADAPTER PLATE USED ONLY IF MOUNTING ON OLD MILLER HOPPER).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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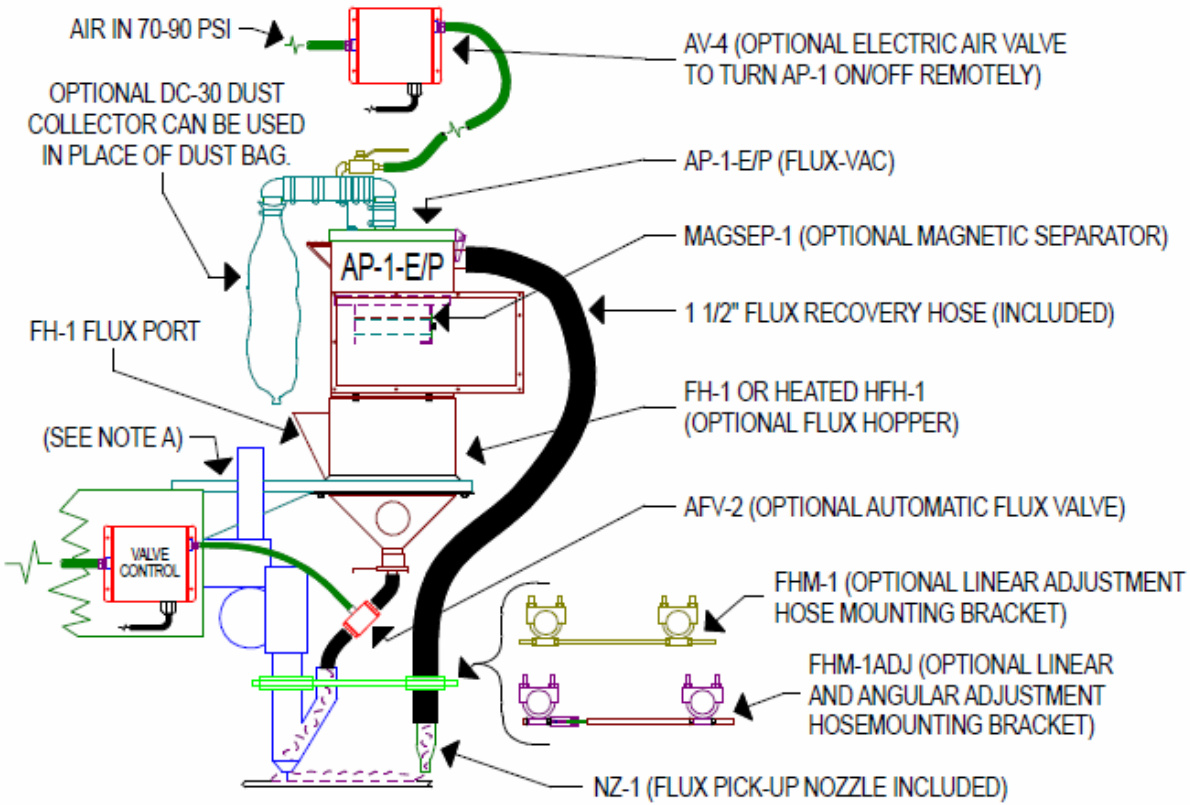
FIG. 4:

AP-1-E/P FLUX-VAC MOUNTED TO OPTIONAL FH-1 OR HEATED HFH-1 FLUX HOPPER. (40 LBS. CAPACITY)



NOTE A: MOUNTING FRAME

CUSTOMER PROVIDES MOUNTING FRAME FROM FLUX HOPPER TO WELDING HEAD.

RECOMMENDED SYSTEM ORDER LIST:

1) AP-1-E/P (FLUX-VAC)
   INCLUDED WITH AP-1-E/P AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FH-1 OR HEATED HFH-1 (FLUX HOPPER. SEE NOTE A FOR MOUNTING).

4) OPTIONAL AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL).

5) OPTIONAL (MAGSEP-1 MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

BULLETIN: (PAGE 2) TB-708
FILE: 02~ AP-1-EP TB-DRT 7-28-2008.CAD
REVISED: AP1EP-TB.DWG (2-1-1994 TB-MM394)
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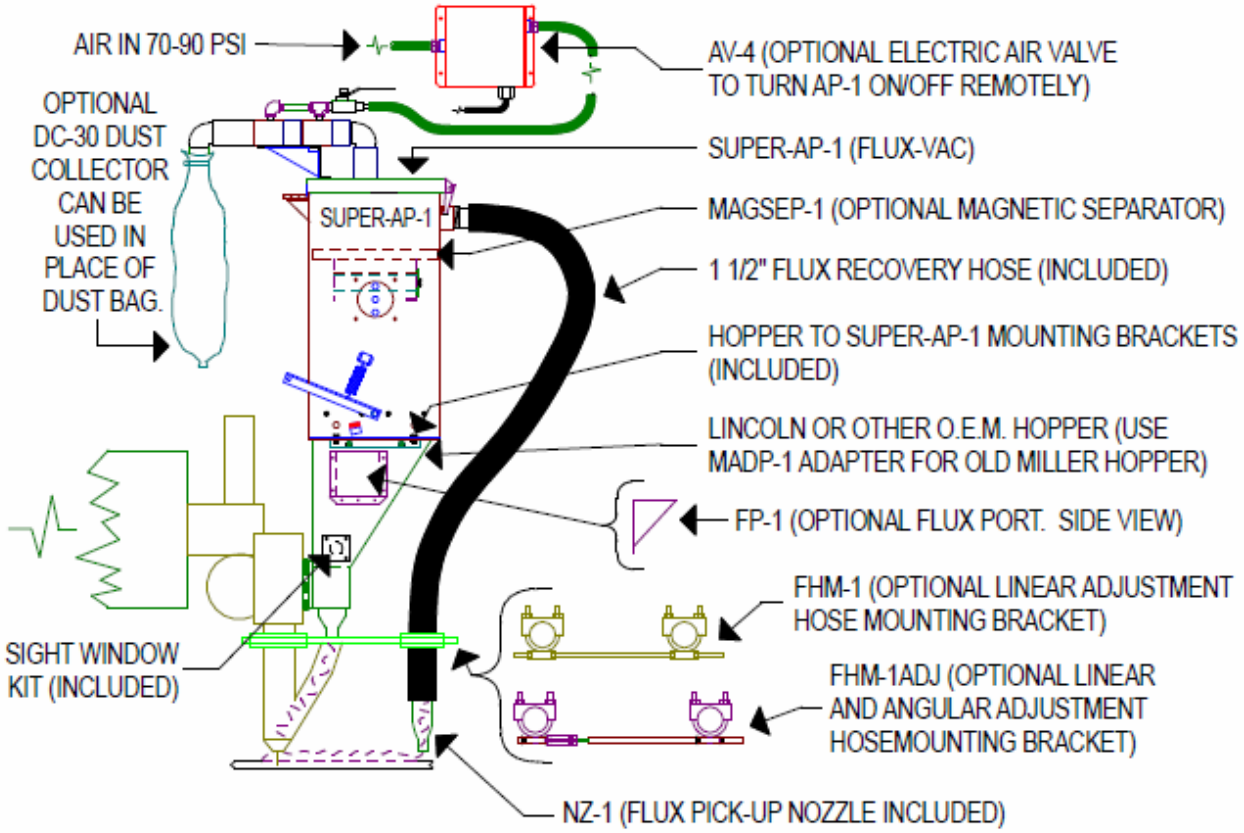
FIG. 5

SUPER-AP-1 FLUX-VAC MOUNTED TO LINCOLN OR OTHER O.E.M. AUTOMATIC WELDING EQUIPMENT.



RECOMMENDED SYSTEM ORDER LIST:

1) SUPER-AP-1 (FLUX-VAC)
   INCLUDED WITH SUPER-AP-1 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FP-1 (FLUX PORT ENABLES LOADING OF FLUX WITHOUT INTERRUPTING WELDING).

4) OPTIONAL MADP-1 (ADAPTER PLATE USED ONLY IF MOUNTING ON OLD MILLER HOPPER).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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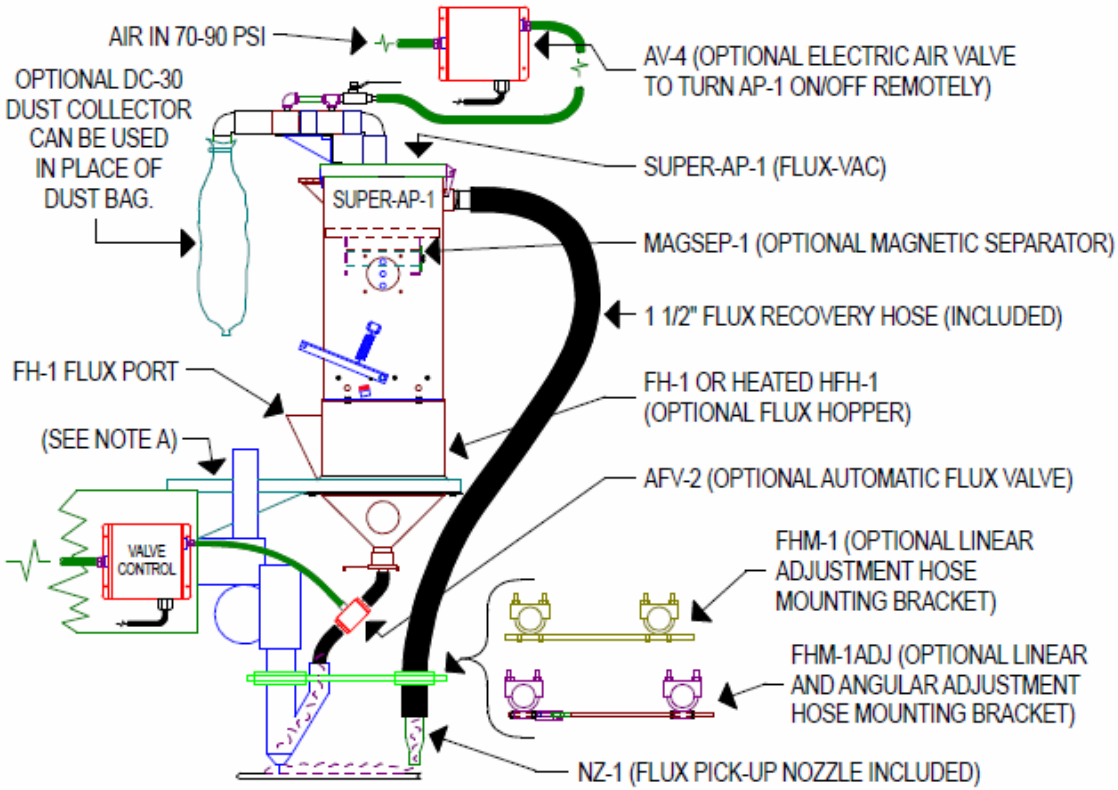
FIG. 6

SUPER-AP-1 FLUX-VAC MOUNTED TO OPTIONAL FH-1 OR HEATED HFH-1 FLUX HOPPER. (40 LBS. CAPACITY)



NOTE A: MOUNTING FRAME

CUSTOMER PROVIDES MOUNTING FRAME FROM FLUX HOPPER TO WELDING HEAD.

RECOMMENDED SYSTEM ORDER LIST:

1) SUPER-AP-1 (FLUX-VAC)
   INCLUDED WITH SUPER-AP-1 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FH-1 OR HEATED HFH-1 (FLUX HOPPER).

4) OPTIONAL AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL).

5) OPTIONAL (MAGSEP-1 MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

BULLETIN: (PAGE 3) TB-708
FILE: 03~ SUPER-AP-1 TB-DRT 7-29-2008.CAD
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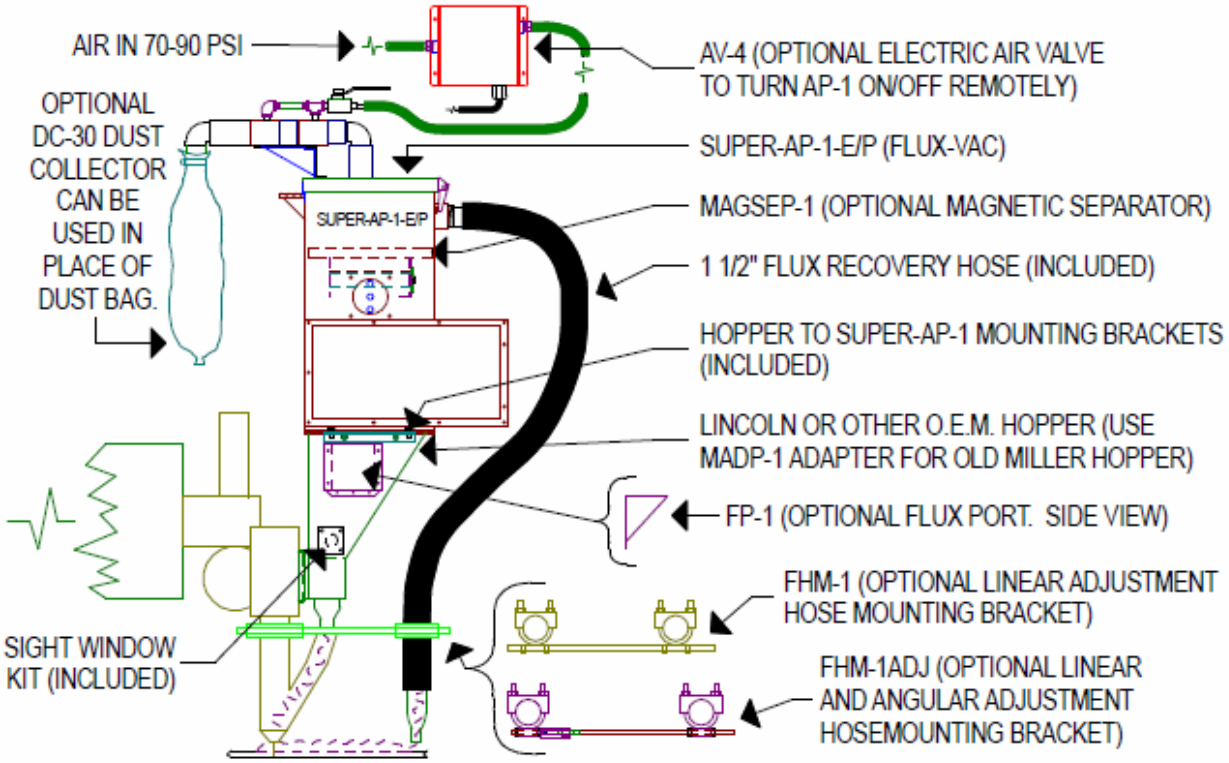
FIG. 7:

SUPER AP-1-E/P FLUX-VAC MOUNTED TO LINCOLN OR OTHER O.E.M. AUTOMATIC WELDING EQUIPMENT.



RECOMMENDED SYSTEM ORDER LIST:

1) SUPER-AP-1-E/P (FLUX-VAC). INCLUDED WITH SUPER-AP-1-E/P AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FP-1 (FLUX PORT ENABLES LOADING OF FLUX WITHOUT INTERRUPTING WELDING).

4) OPTIONAL MADP-1 (ADAPTER PLATE USED ONLY IF MOUNTING ON OLD MILLER HOPPER).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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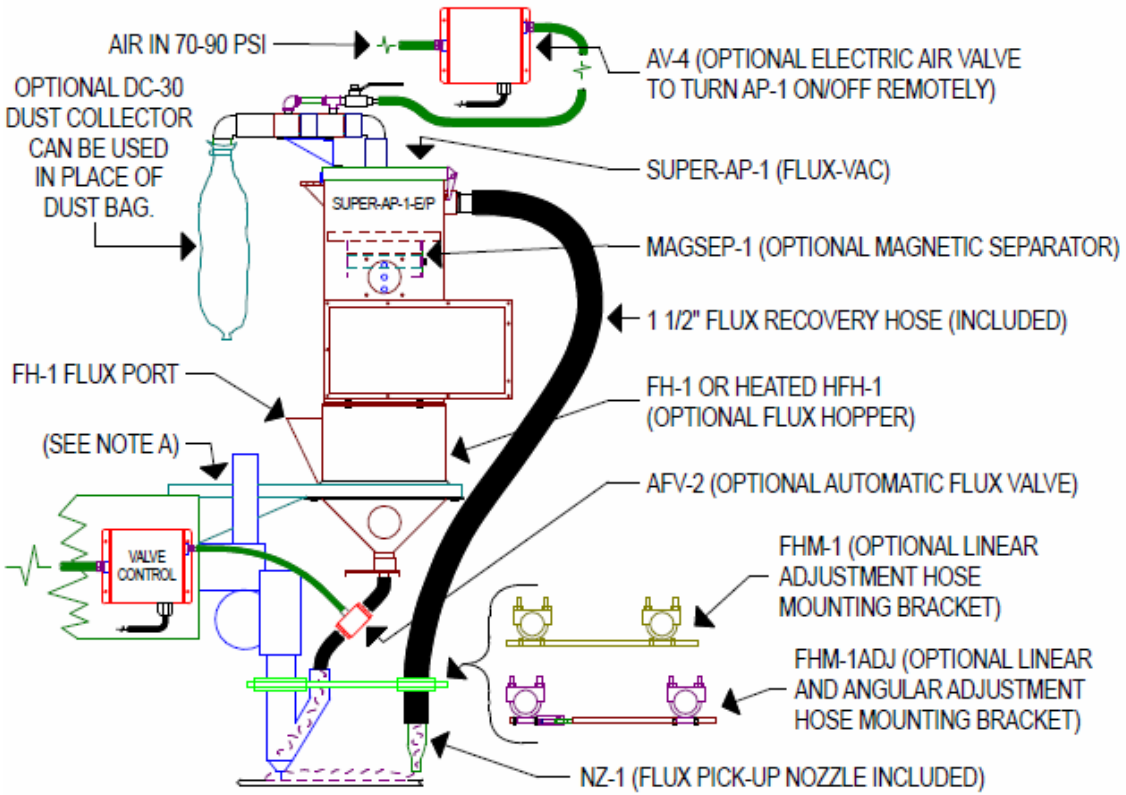
FIG. 8:

SUPER-AP-1-E/P FLUX-VAC MOUNTED TO OPTIONAL FH-1 OR HEATED HFH-1 FLUX HOPPER. (40 LBS. CAPACITY)



NOTE A: MOUNTING FRAME

CUSTOMER PROVIDES MOUNTING FRAME FROM FLUX HOPPER TO WELDING HEAD.

RECOMMENDED SYSTEM ORDER LIST:

1) SUPER-AP-1-E/P (FLUX-VAC). INCLUDED WITH SUPER-AP-1-E/P AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FH-1 OR HEATED HFH-1 (FLUX HOPPER. SEE NOTE A FOR MOUNTING).

4) OPTIONAL AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL).

5) OPTIONAL (MAGSEP-1 MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

BULLETIN: (PAGE 4) TB-708
FILE: 04~ SUPER-AP-1-EP TB-DRT 7-28-2008.CAD
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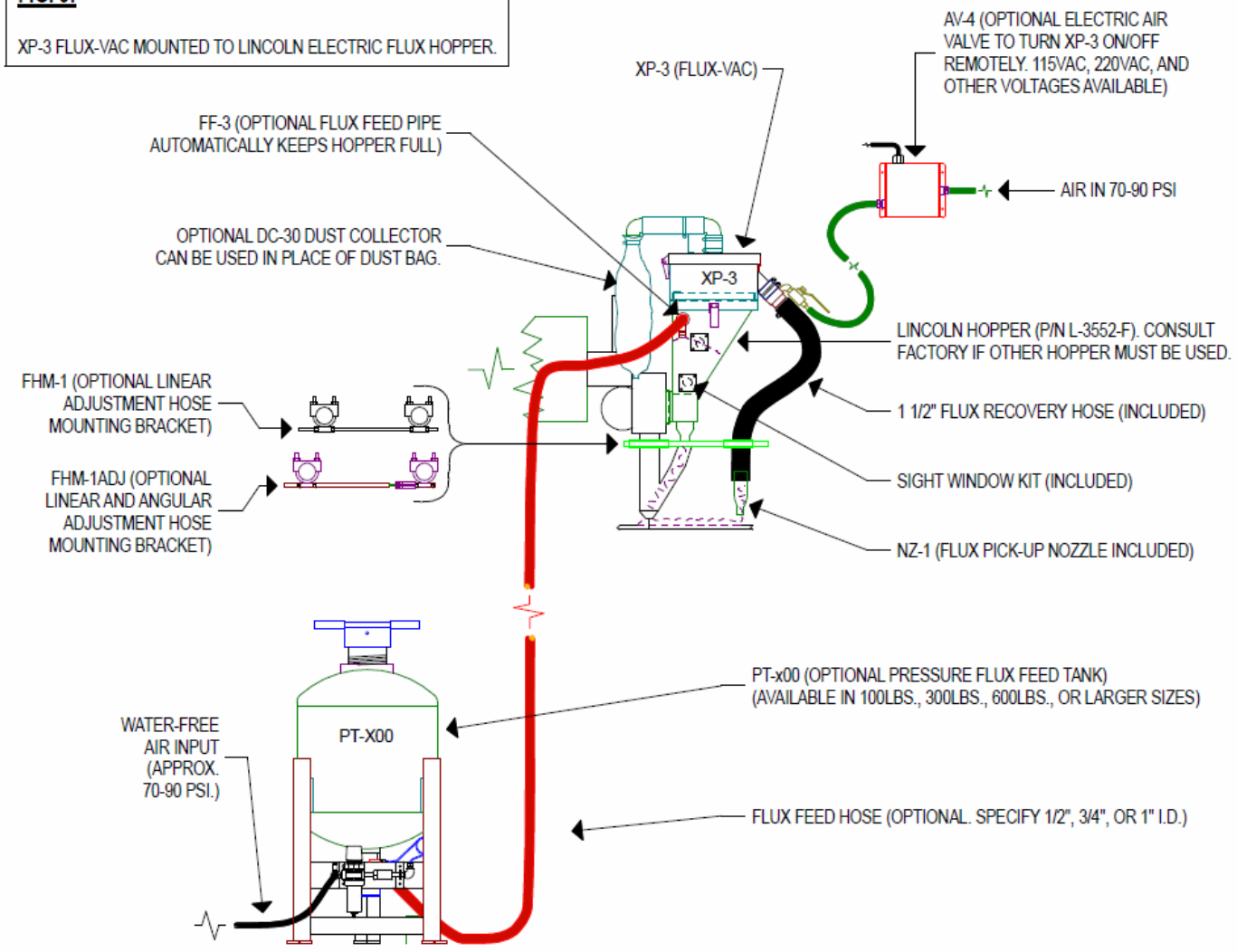
FIGURE 9

FIG. 9:

XP-3 FLUX-VAC MOUNTED TO LINCOLN ELECTRIC FLUX HOPPER.



RECOMMENDED SYSTEM ORDER LIST:

1) XP-3 (FLUX-VAC)
   INCLUDED WITH XP-3 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) NZ-1 (FLUX PICK-UP NOZZLE).
   C) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

4) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

5) OPTIONAL FF-3 (FLUX FEED PIPE AUTOMATICALLY KEEPS HOPPER FULL OF FLUX IF USING PT-xOO OR SIMILAR FEED TANK. SPECIFY I.D. OF 1/2", 3/4", OR 1").

6) OPTIONAL PT-x00 FLUX FEED TANK (AVAILABLE IN 100LBS., 300LBS., 600LBS., OR LARGER SIZES).

7) OPTIONAL FLUX FEED HOSE. (SPECIFY 1/2", 3/4", OR 1" I.D. SIZE).

8) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

BULLETIN: (PAGE 5) TB-708
FILE: 05~ XP-3 TB-DRT 7-29-2008.CAD
REVISED: XP3-TB.CAD (7-1-1998 TB-394)
WELD ENGINEERING CO., INC.
DRT 11-18-2009

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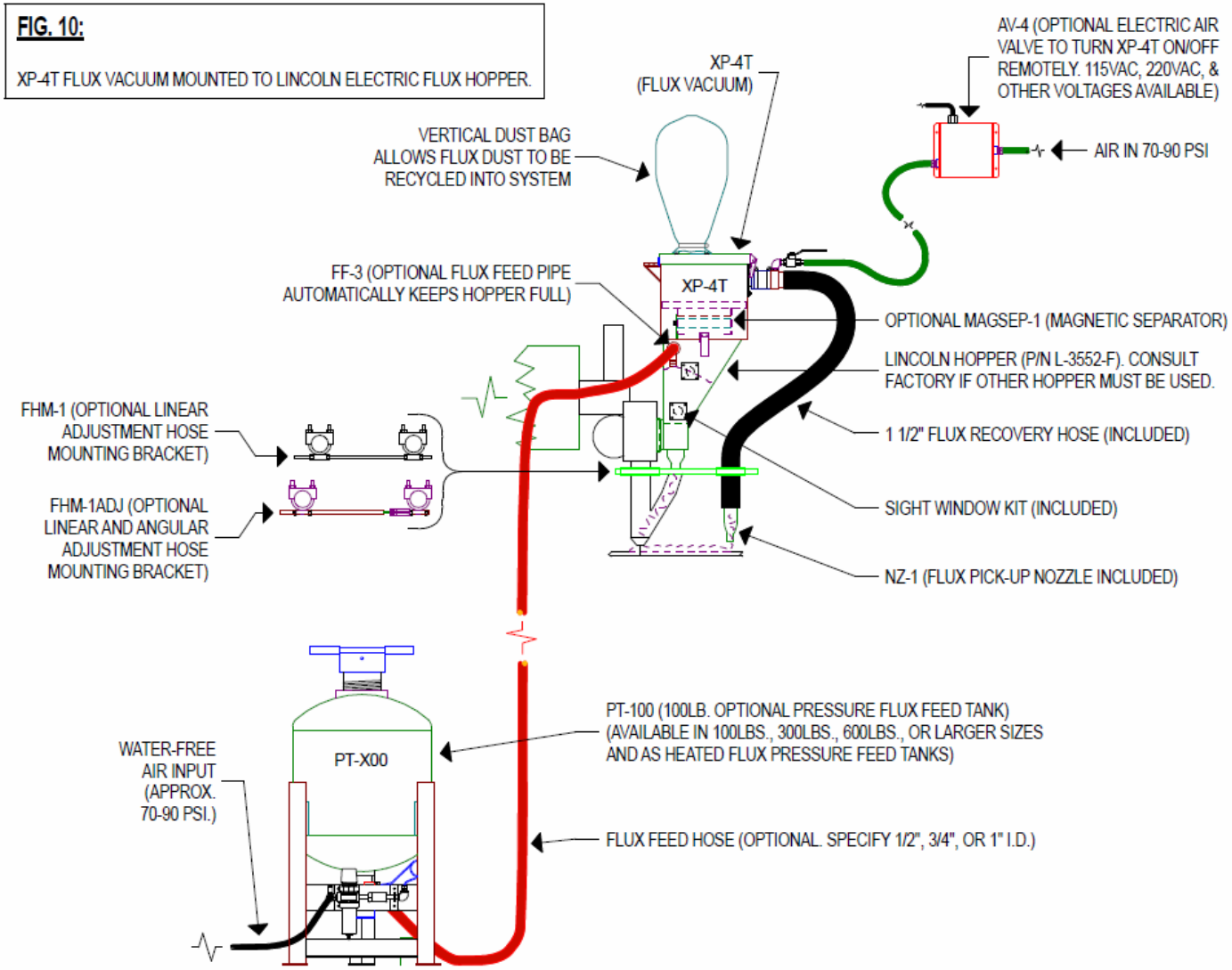
SALES@WELDENGINEERING.COM

FIGURE 10

FIG. 10:

XP-4T FLUX VACUUM MOUNTED TO LINCOLN ELECTRIC FLUX HOPPER.



INCLUDED AT NO EXTRA COST:

1) XP-4T (FLUX VACUUM)
2) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
3) NZ-1 (FLUX PICK-UP NOZZLE).
4) 2 HOPPER SIGHT WINDOWS.

OTHER OPTIONAL ACCESSORIES AVAILABLE:

1) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).
2) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)
3) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).
4) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).
5) OPTIONAL FF-3 (FLUX FEED PIPE AUTOMATICALLY KEEPS HOPPER FULL OF FLUX IF USING PT-100 OR SIMILAR FEED TANK. SPECIFY I.D. OF 1/2", 3/4", OR 1").
6) OPTIONAL 100LB. PT-100 OR HEATED HPT-100 FLUX PRESSURE FEED TANK [ALSO AVAILABLE IN 300LB. PT-300 OR HEATED HPT-300, 600LB. PT-600 OR HEATED HPT-600, OR LARGER SIZES].
7) OPTIONAL FLUX FEED HOSE. (SPECIFY 1/2", 3/4", OR 1" I.D. SIZE).

BULLETIN: (PAGE 6) TB-708
FILE: 06~ XP-4T TB-DRT 12-17-2011.CAD
WELD ENGINEERING CO., INC.
DRT 12-19-2011

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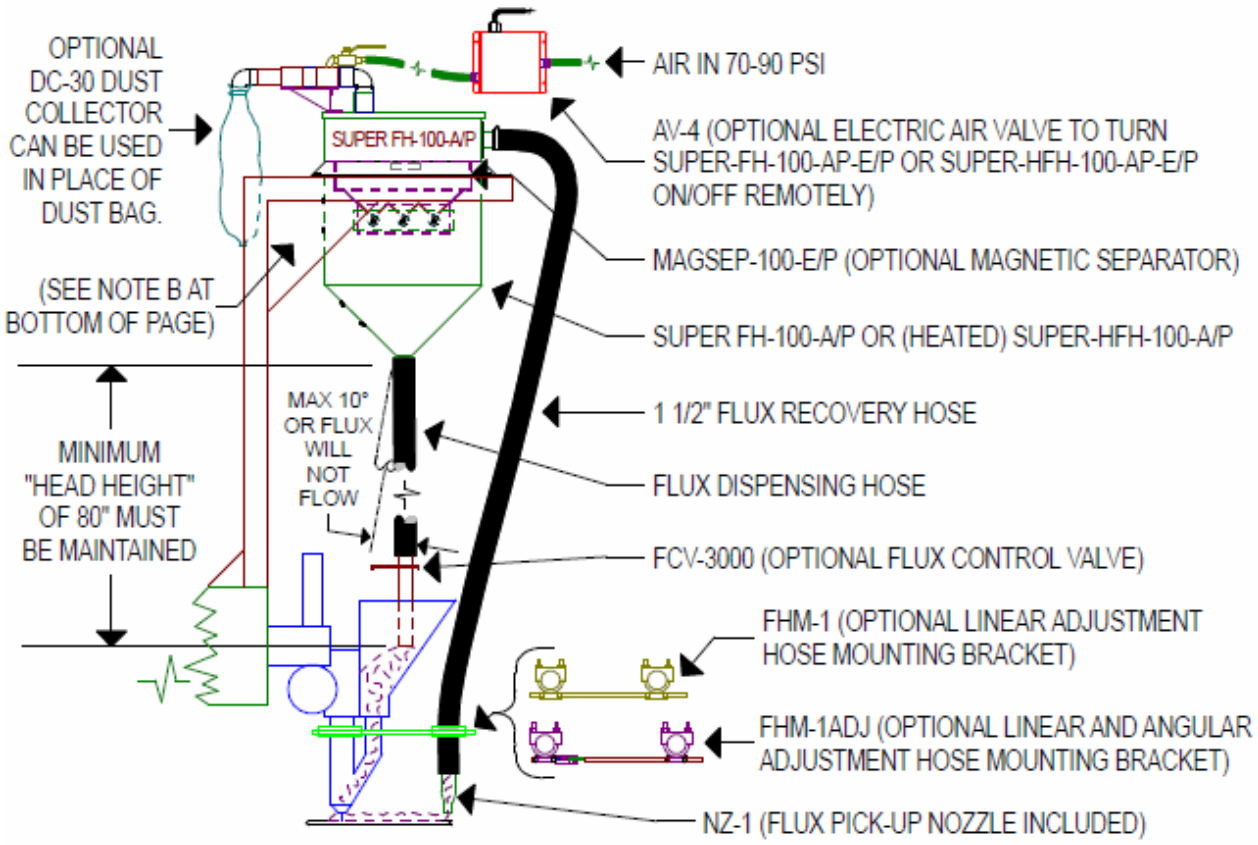
FIG. 11:

AIR OPERATED SUPER-FH-100-A/P OR (HEATED) SUPER-HFH-100-A/P FLUX-VAC.



RECOMMENDED SYSTEM ORDER LIST:

1) AIR OPERATED SUPER-FH-100-A/P OR (HEATED) SUPER-HFH-100-A/P (FLUX-VAC) INCLUDED WITH UNIT AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (10FT. LONG).
   B) 1 1/2" FLUX DISPENSING HOSE (7FT. LONG)
   C) NZ-1 (FLUX PICK-UP NOZZLE).

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FCV-3000 (FLUX CONTROL VALVE).

4) OPTIONAL MAGSEP-100 (MAGNETIC SEPARATOR).

5) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

6) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

7) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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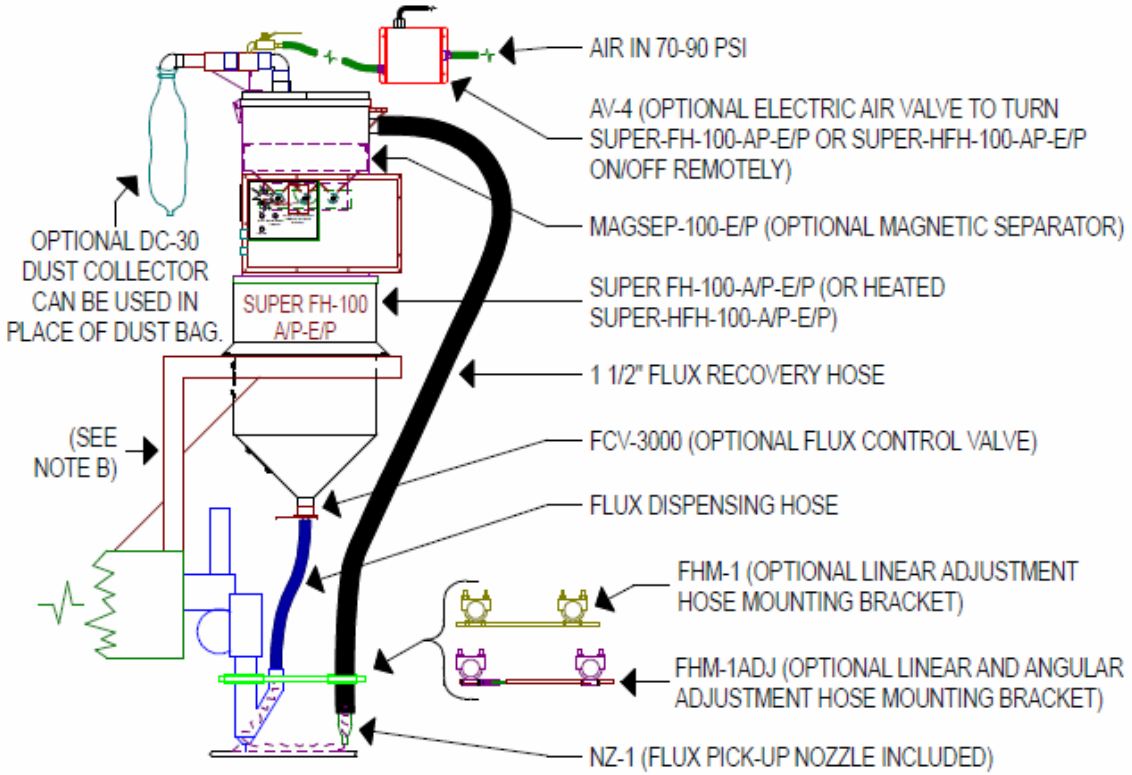
FIG. 12:

AIR OPERATED SUPER-FH-100-A/P-E/P OR (HEATED) SUPER-HFH-100-A/P-E/P FLUX-VAC.



RECOMMENDED SYSTEM ORDER LIST:

1) AIR OPERATED SUPER-FH-100-A/P-E/P OR (HEATED) SUPER-HFH-100-A/P-E/P(FLUX-VAC) INCLUDED WITH UNIT AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (8FT. LONG).
   B) 3/4" FLUX DISPENSING HOSE (5FT. LONG).
   C) NZ-1 (FLUX PICK-UP NOZZLE).

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FCV-3000 (FLUX CONTROL VALVE).

4) OPTIONAL MAGSEP-100-E/P (MAGNETIC SEPARATOR).

5) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT BUTT NOZZLE)

6) OPTIONAL AV-4 (ELECTRIC AIR VALVE. 115VAC, 220VAC, AND OTHER VOLTAGES AVAILABLE).

7) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

NOTE A: "HEAD HEIGHT" ELIMINATED

HOPPER CAN BE PLACED IN ANY CONVENIENT POSITION (NOT SENSITIVE TO "HEAD HEIGHT")

NOTE B: MOUNTING BRACKETS

MOUNTING BRACKETS FOR UNIT ARE PROVIDED BY CUSTOMER.

BULLETIN: (PAGE 7) TB-MM708
FILE: 07~ SUPER-FH-100 TB-DRT 7-31-2008.CAD
REVISED: SUPER-FH-100-TB.CAD (6-25-1996 TB-MM394)
WELD ENGINEERING CO., INC.
DRT 8-4-2008

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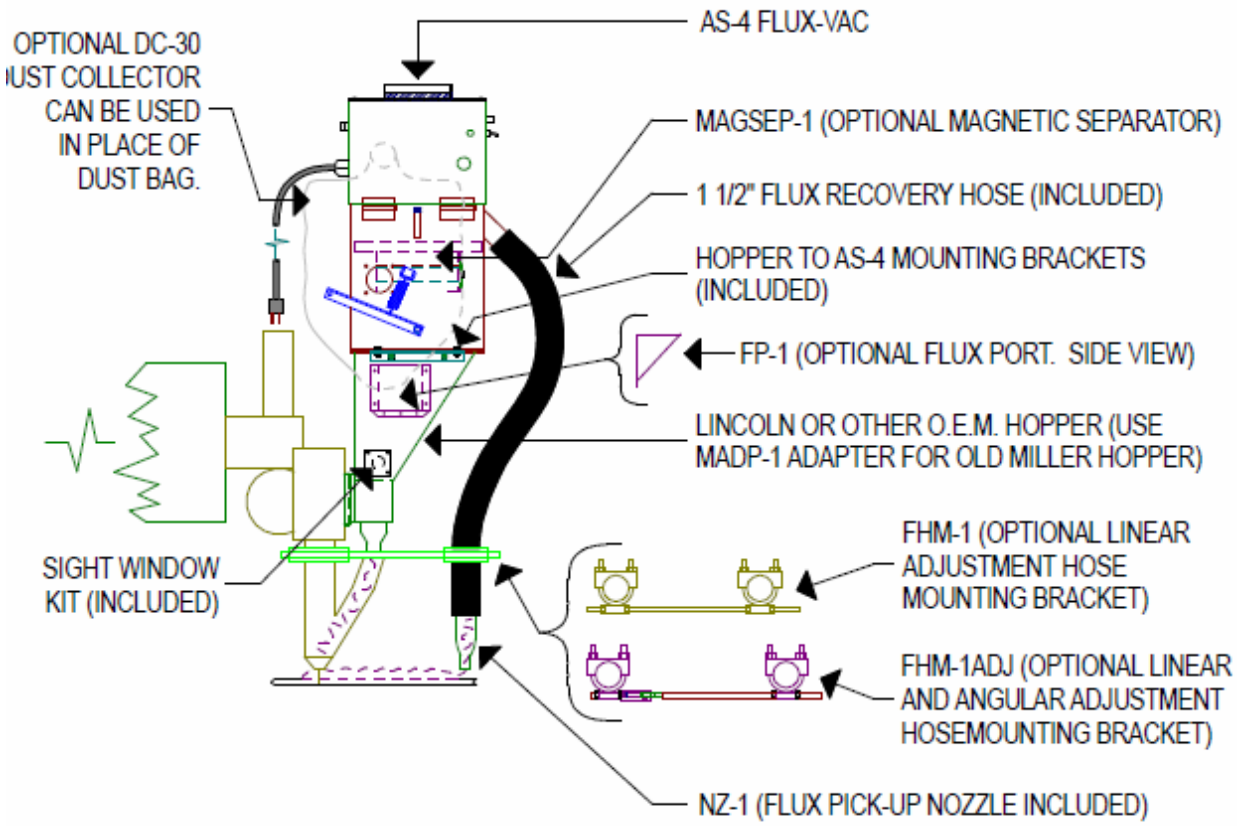
FIG. 13:

AS-4 FLUX-VAC MOUNTED TO LINCOLN OR OTHER O.E.M. AUTOMATIC WELDING EQUIPMENT.



RECOMMENDED SYSTEM ORDER LIST:

1) AS-4 FLUX-VAC
   INCLUDED WITH AS-4 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AS-4 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FP-1 (FLUX PORT ENABLES LOADING OF FLUX WITHOUT INTERRUPTING WELDING).

4) OPTIONAL MADP-1 (ADAPTER PLATE USED ONLY IF MOUNTING ON OLD MILLER HOPPER).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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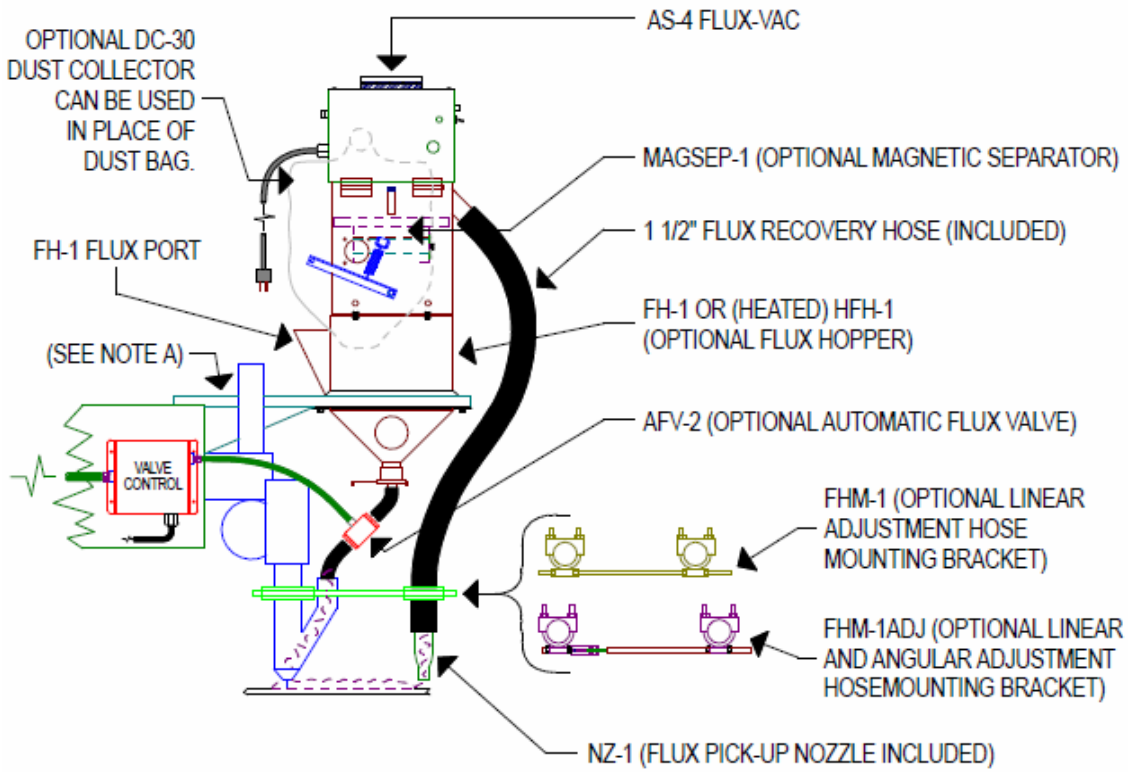
FIG. 14:

AS-4 FLUX-VAC MOUNTED TO OPTIONAL FH-1 OR HEATED HFH-1 FLUX HOPPER. (40 LBS. CAPACITY)



NOTE A: MOUNTING FRAME

CUSTOMER PROVIDES MOUNTING FRAME FROM FLUX HOPPER TO WELDING HEAD.

RECOMMENDED SYSTEM ORDER LIST:

1) AS-4 FLUX-VAC
   INCLUDED WITH AS-4 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AS-4 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FH-1 OR (HEATED) HFH-1 (FLUX HOPPER).

4) OPTIONAL AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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FILE: 08~ AS-4 TB-DRT 7-31-2008.CAD
REVISED: AS4-TB.CAD (7-1-1998 TB-MM394)
WELD ENGINEERING CO., INC.
DRT 8-1-2008

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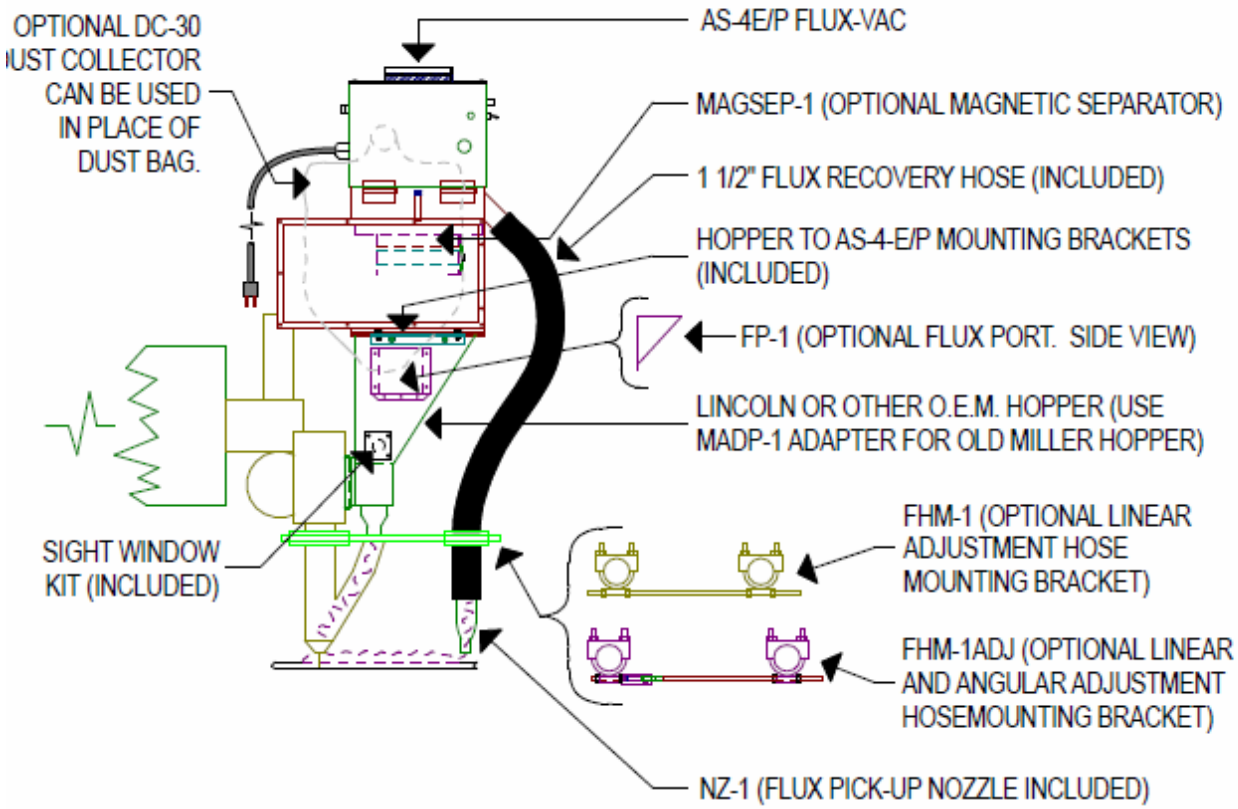
FIG. 15:

AS-4-E/P FLUX-VAC MOUNTED TO LINCOLN OR OTHER O.E.M. AUTOMATIC WELDING EQUIPMENT.
(AS-1-E/P AUTOMATICALLY TRANSFERS FLUX TO LOWER HOPPER W/OUT OPERATOR INPUT)



RECOMMENDED SYSTEM ORDER LIST:

1) AS-4-E/P FLUX-VAC
   INCLUDED WITH AS-4-E/P AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AS-4 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FP-1 (FLUX PORT ENABLES LOADING OF FLUX WITHOUT INTERRUPTING WELDING).

4) OPTIONAL MADP-1 (ADAPTER PLATE USED ONLY IF MOUNTING ON OLD MILLER HOPPER).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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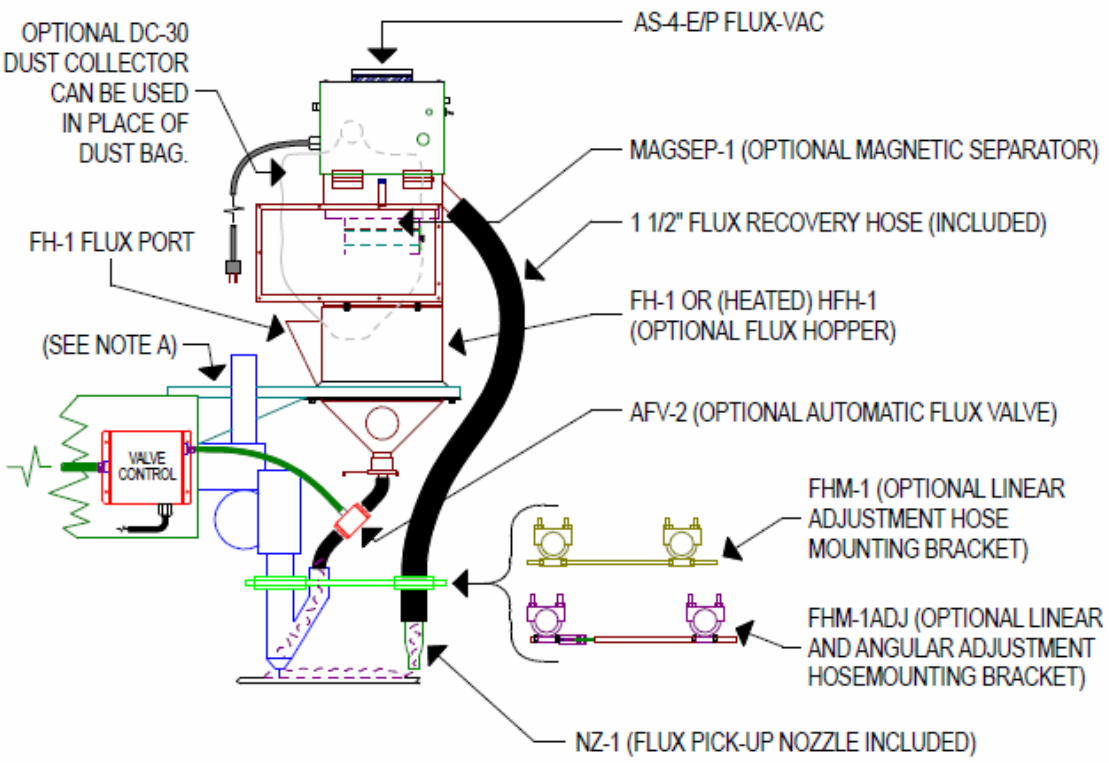
FIG. 16:

AS-4-E/P FLUX-VAC MOUNTED TO OPTIONAL FH-1 OR HEATED HFH-1 FLUX HOPPER. (40 LBS. CAPACITY)



NOTE A: MOUNTING FRAME

CUSTOMER PROVIDES MOUNTING FRAME FROM FLUX HOPPER TO WELDING HEAD.

RECOMMENDED SYSTEM ORDER LIST:

1) AS-4-E/P FLUX-VAC
   INCLUDED WITH AS-4-E/P AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AS-4 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL HOSE MOUNTING BRACKETS:
   FHM-1 (LINEAR ADJUSTMENT ONLY)
   FHM-1ADJ (LINEAR AND ANGULAR ADJUSTMENT).

3) OPTIONAL FH-1 OR (HEATED) HFH-1 (FLUX HOPPER).

4) OPTIONAL AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL).

5) OPTIONAL MAGSEP-1 (MAGNETIC SEPARATOR).

6) OPTIONAL FLUX PICK-UP NOZZLES:
   NZ-1 CRN (CORNER NOZZLE)
   NZ-1 BUTT (BUTT NOZZLE)

7) OPTIONAL DC-30 (DUST COLLECTOR USED IN PLACE OF DUST BAG FOR GREATER CAPACITY AND LESS MAINTENANCE).

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FILE: 09~ AS-4-EP TB-DRT 8-1-2008.CAD
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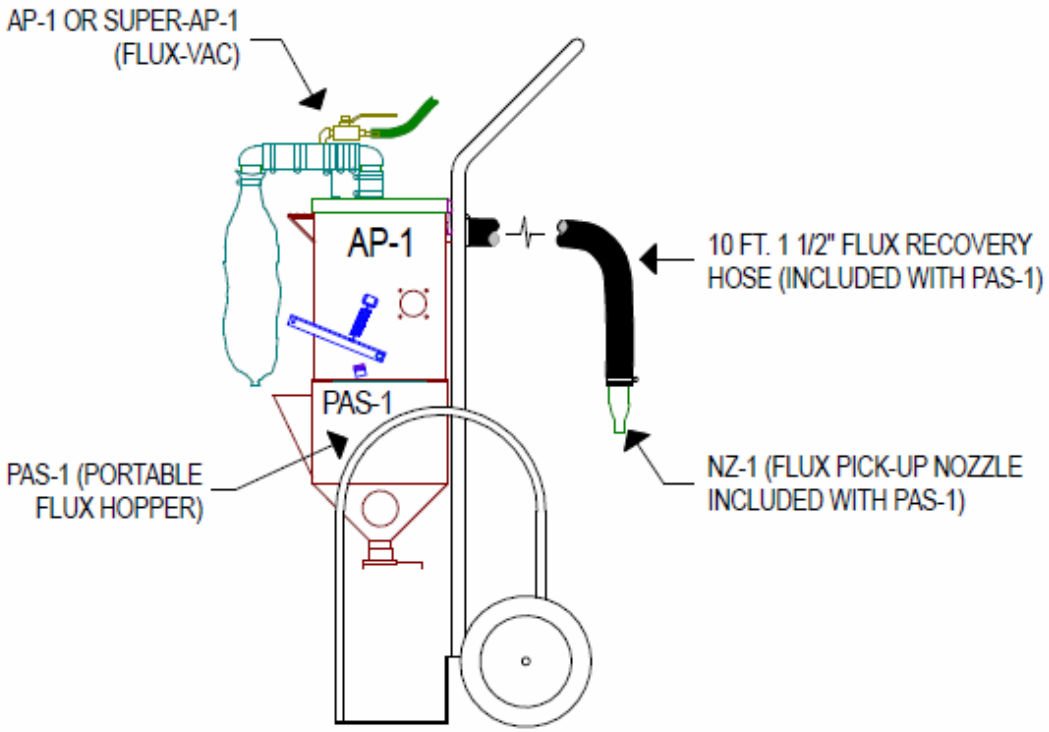
FIG. 17:

AP-1 OR SUPER-AP-1 FLUX-VAC MOUNTED TO PAS-1 PORTABLE FLUX HOPPER. CONVERTS AP-1 OR SUPER-AP-1 INTO A PORTABLE FLUX-VAC.



RECOMMENDED SYSTEM ORDER LIST:

1) AP-1 OR SUPER-AP-1 (FLUX-VAC)
   INCLUDED WITH FLUX-VAC AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AP-1 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL PAS-1 (PORTABLE FLUX HOPPER).
   INCLUDED WITH PAS-1 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (10FT. LONG)
   B) NZ-1 (FLUX PICK-UP NOZZLE).

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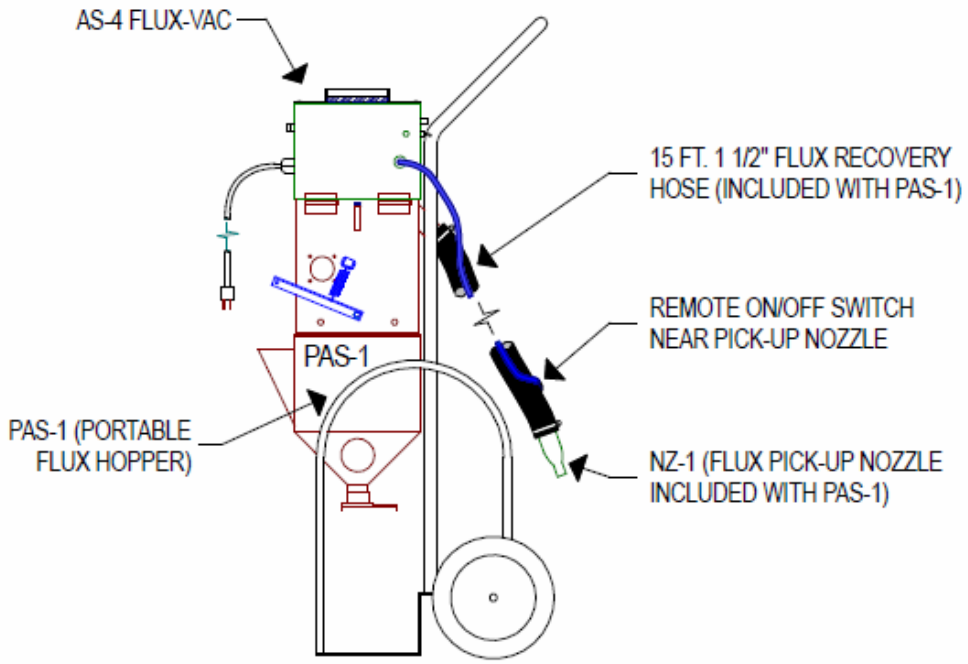
FIG. 18:

AS-4 FLUX-VAC MOUNTED TO PAS-1 PORTABLE FLUX HOPPER. CONVERTS AS-4 INTO A PORTABLE FLUX-VAC.



RECOMMENDED SYSTEM ORDER LIST:

1) AS-4 (FLUX-VAC)
   INCLUDED WITH AS-4 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (5FT. LONG).
   B) HOPPER TO AS-4 MOUNTING BRACKETS.
   C) NZ-1 (FLUX PICK-UP NOZZLE).
   D) 2 HOPPER SIGHT WINDOWS.

2) OPTIONAL PAS-1 (PORTABLE FLUX HOPPER).
   INCLUDED WITH PAS-1 AT NO EXTRA COST:
   A) 1 1/2" FLUX RECOVERY HOSE (15 FT. LONG)
   B) NZ-1 (FLUX PICK-UP NOZZLE).

BULLETIN: (PAGE 10) TB-MM708
FILE: 10~ PAS-1 TB-DRT 8-1-2008.CAD
REVISED: AP1-PAS1.CAD (6-26-2008 TB-MM396)
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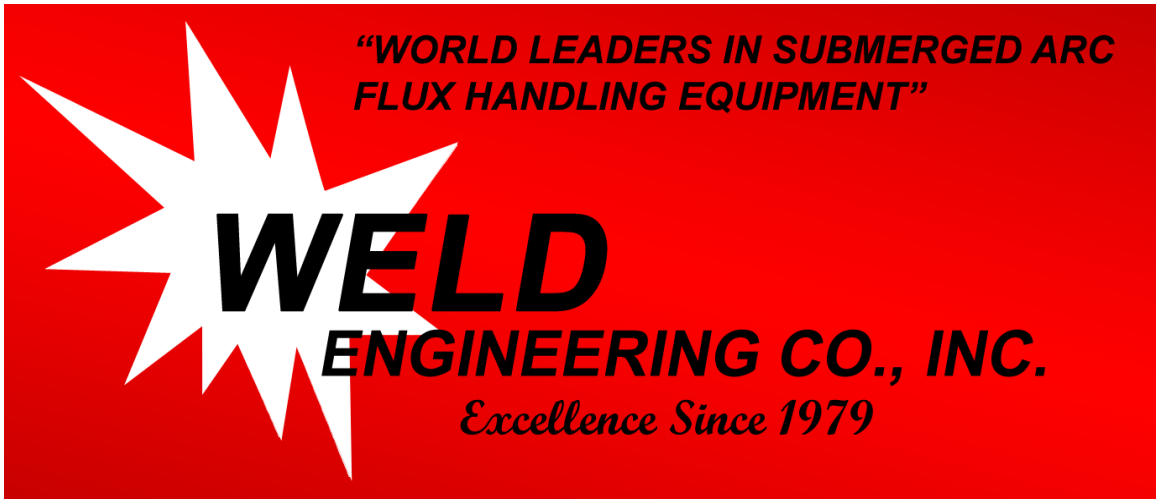
DRT 8-1-2008



TB-MM708
HEAVY DUTY
SYSTEM DIAGRAMS

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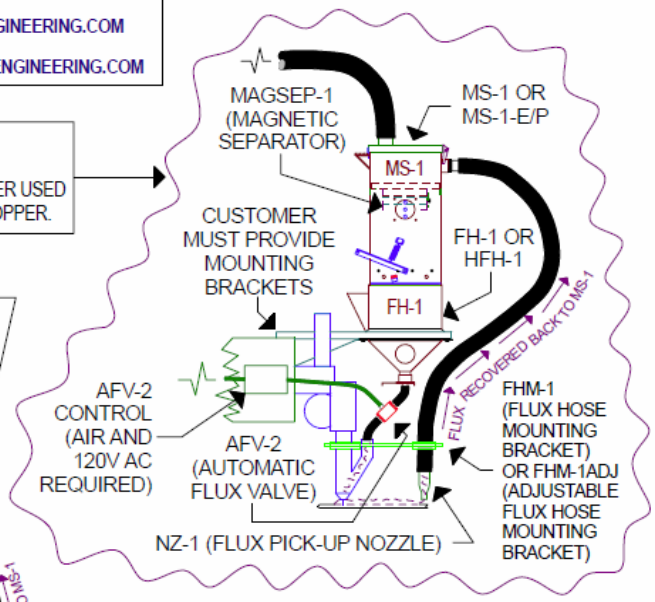
FIGURE SPS-1

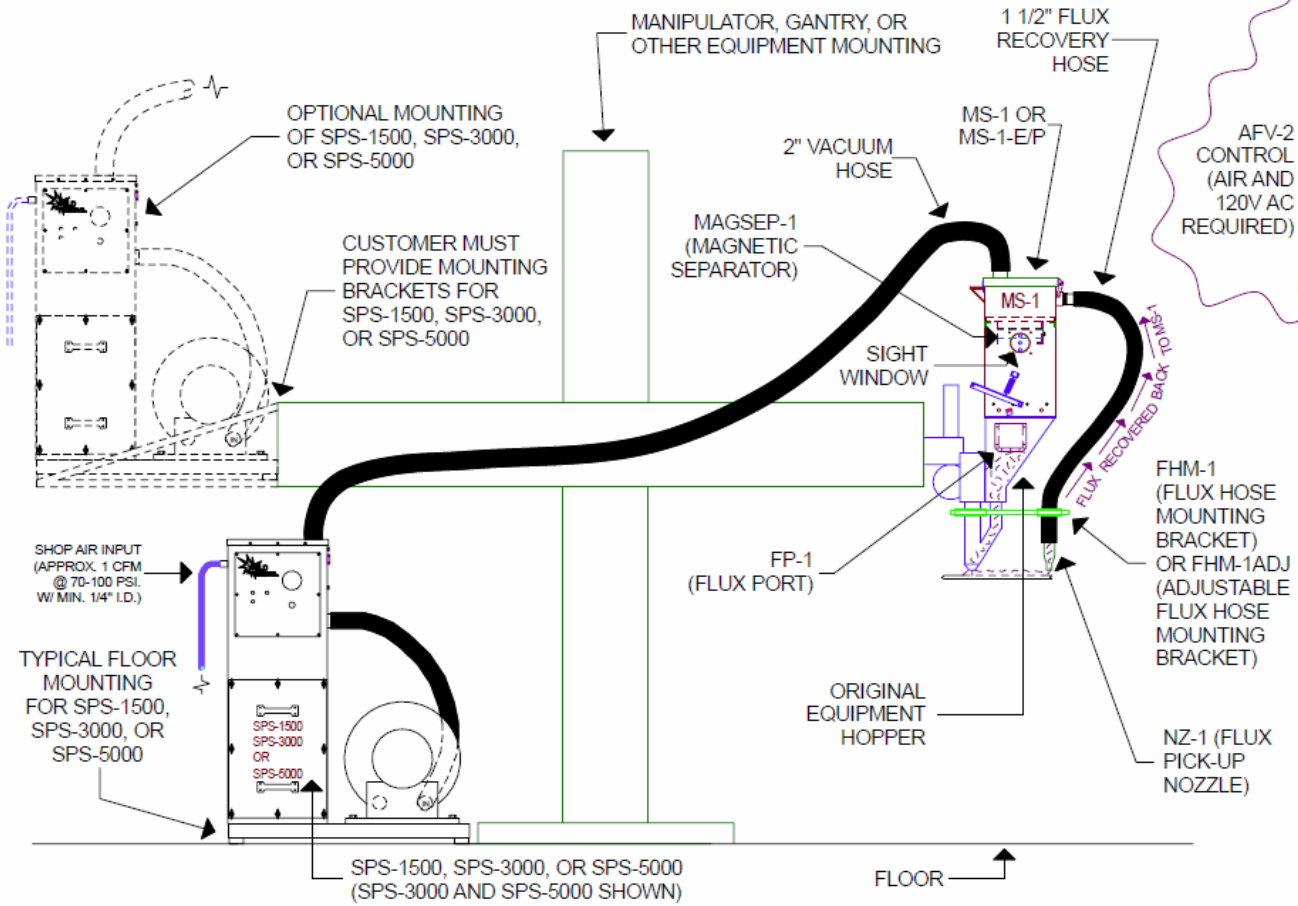
FIG. SPS-1

FLUX RECOVERY SEPARATOR MOUNTED TO SYSTEM HOPPER. SPS-1500, SPS-3000, OR SPS-5000 VACUUM WITH MS-1 OR MS-1-E/P SEPARATOR. (TYPICAL COMPONENT CONFIGURATION.)

ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.





SYSTEM ORDER LIST:

1@ SPS-1500, SPS-3000, OR SPS-5000 (VACUUM) (220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ MS-1 OR AUTOMATIC MS-1-E/P (SEPARATOR)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
1@ FH-1 OR HFH-1 (FLUX HOPPER USED IN PLACE OF EXISTING HOPPER)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER)
1@ 2" VACUUM HOSE (UP TO 35 FT. FOR SPS-1500)
1@ MADP-1 (ADAPTER FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 1) TB-MM708
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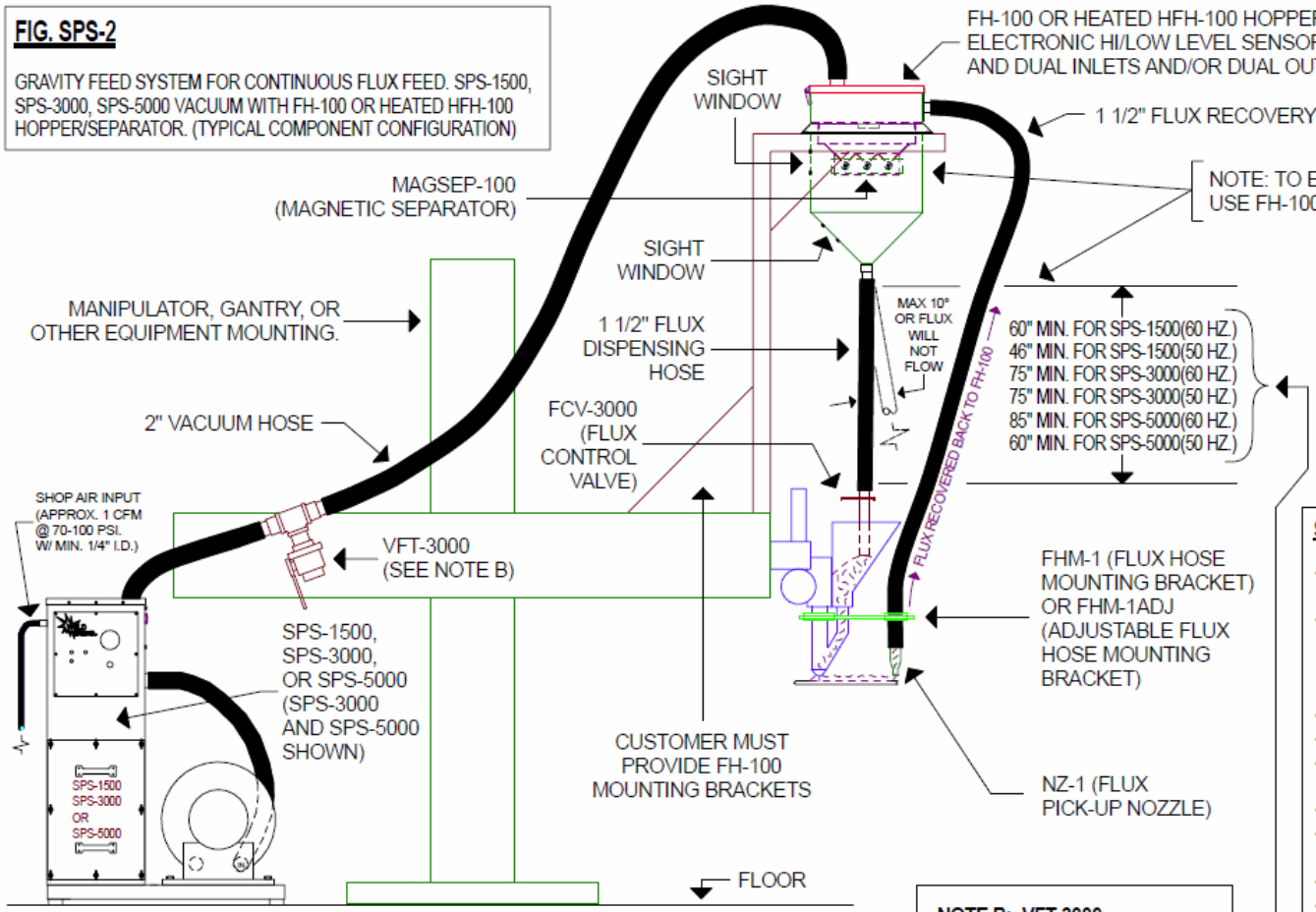
FIGURE SPS-2

FIG. SPS-2

GRAVITY FEED SYSTEM FOR CONTINUOUS FLUX FEED. SPS-1500, SPS-3000, SPS-5000 VACUUM WITH FH-100 OR HEATED HFH-100 HOPPER/SEPARATOR. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ SPS-1500,SPS-3000 OR SPS-5000 (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE) (SEE NOTE B FOR ADJUSTING "HEAD HEIGHT")
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: SPS VACUUM SELECTION:

SPS-1500 FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
SPS-3000 FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
SPS-5000 FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, ABOVE HEIGHT REQUIREMENTS FOR FH-100 MAY ALSO BE REDUCED.

BULLETIN: (PAGE 2) TB-MM708
FILE: 02-SPS~ FH-100 SPS TB-DRT 7-22-2008.CAD
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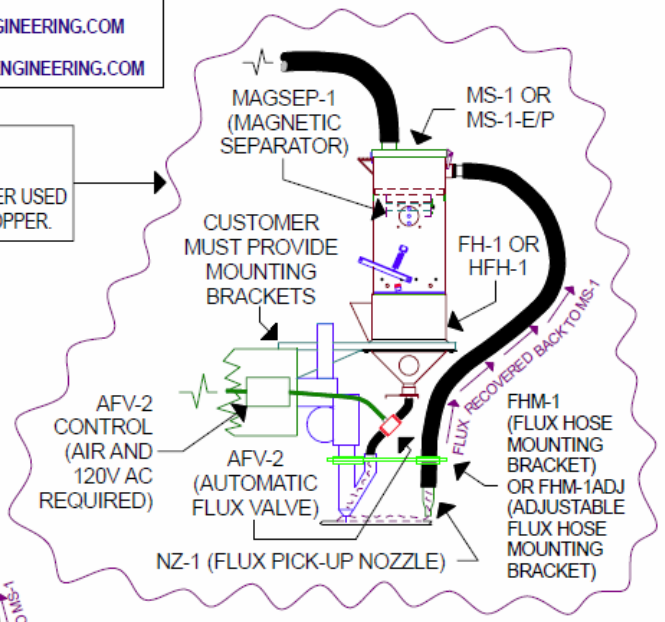
FIGURE MMX-3

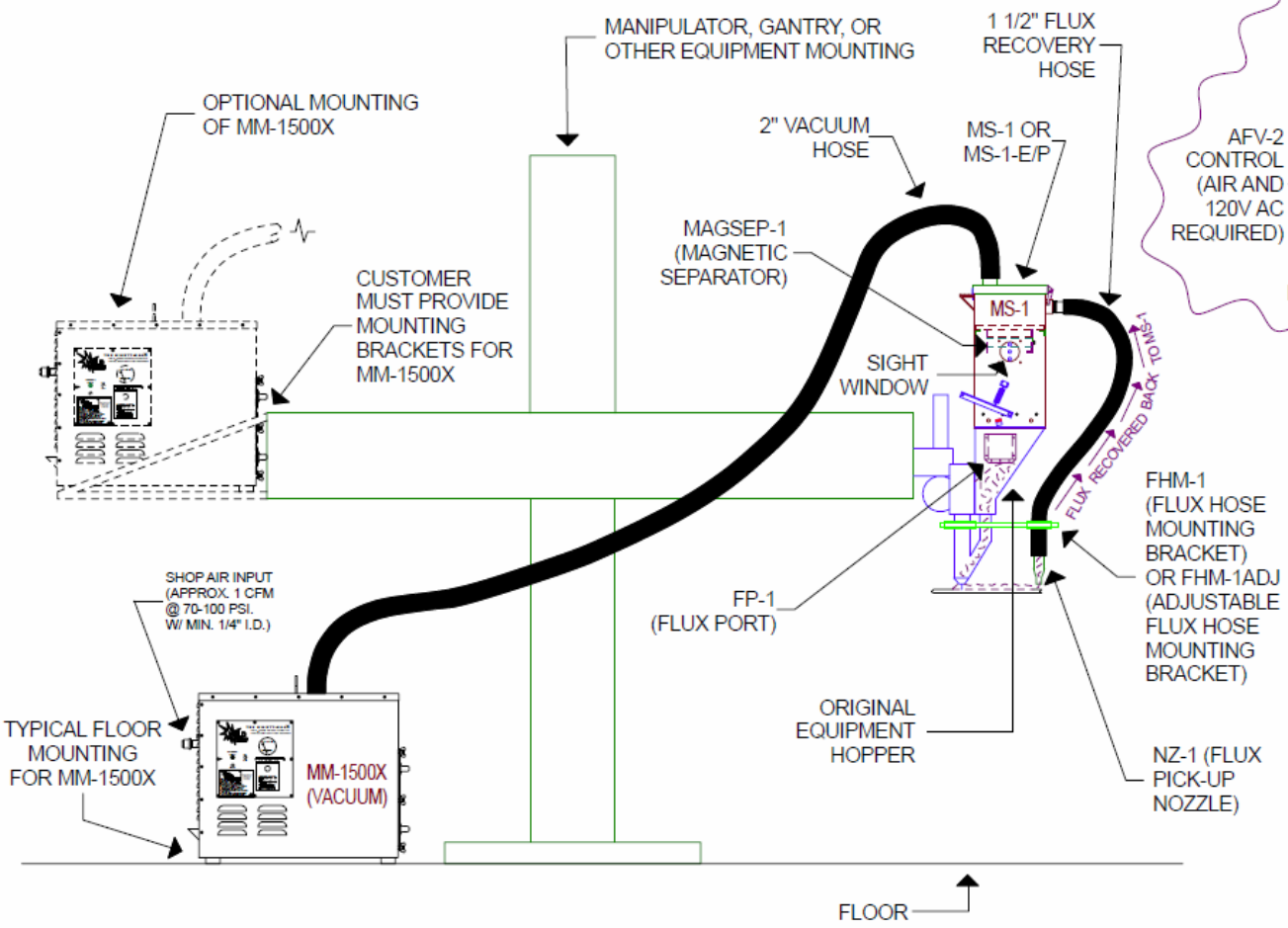
FIG. MMX-3

FLUX RECOVERY SEPARATOR MOUNTED TO SYSTEM HOPPER. MM-1500X VACUUM WITH MS-1 OR MS-1-E/P SEPARATOR. (TYPICAL COMPONENT CONFIGURATION.)

ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.





SYSTEM ORDER LIST:

1@ MM-1500X (VACUUM)
(220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ MS-1 OR AUTOMATIC MS-1-E/P (SEPARATOR)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
1@ FH-1 OR HFH-1 (FLUX HOPPER USED IN PLACE OF EXISTING HOPPER)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER)
1@ 2" VACUUM HOSE (UP TO 35 FT. FOR MM-1500X)
1@ MADP-1 (ADAPTER FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 3) TB-MM708
FILE: 03-MMX~ MS-1 MM-1500X TB-DRT 7-3-2008.CAD
REVISED: 2M15-MS.CAD (12-3-1996 TB-MM294)
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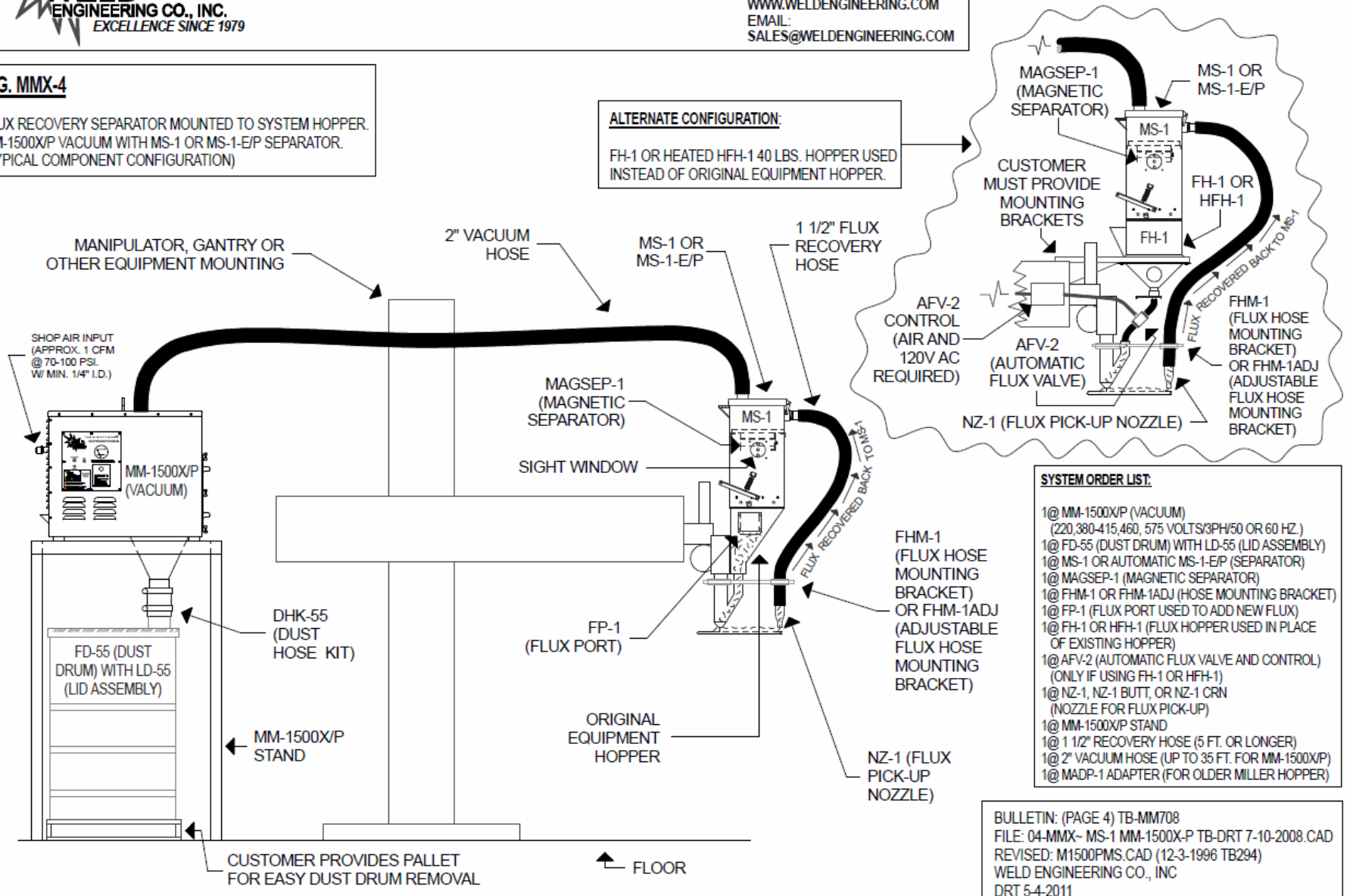
FIGURE MMX-4

FIG. MMX-4

FLUX RECOVERY SEPARATOR MOUNTED TO SYSTEM HOPPER.
MM-1500X/P VACUUM WITH MS-1 OR MS-1-E/P SEPARATOR.
(TYPICAL COMPONENT CONFIGURATION)

ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.



SYSTEM ORDER LIST:

1@ MM-1500X/P (VACUUM)
(220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ MS-1 OR AUTOMATIC MS-1-E/P (SEPARATOR)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
1@ FH-1 OR HFH-1 (FLUX HOPPER USED IN PLACE OF EXISTING HOPPER)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ MM-1500X/P STAND
1@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER)
1@ 2" VACUUM HOSE (UP TO 35 FT. FOR MM-1500X/P)
1@ MADP-1 ADAPTER (FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 4) TB-MM708
FILE: 04-MMX~ MS-1 MM-1500X-P TB-DRT 7-10-2008.CAD
REVISED: M1500PMS.CAD (12-3-1996 TB294)
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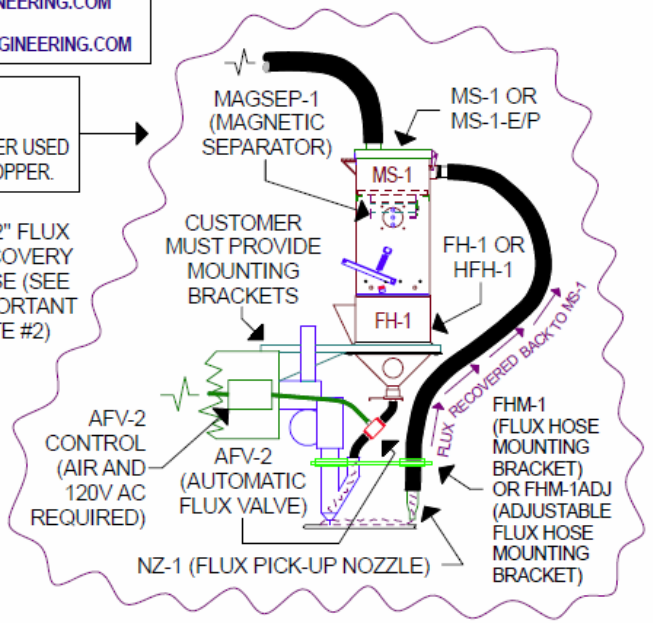
FIGURE MMX-5

FIG. MMX-5

DUAL WELDING STATION FLUX RECOVERY SYSTEM. MM-3000X OR MM-5000X VACUUM WITH 2@ MS-1 OR MS-1-E/P SEPARATORS. (TYPICAL CONFIGURATION)

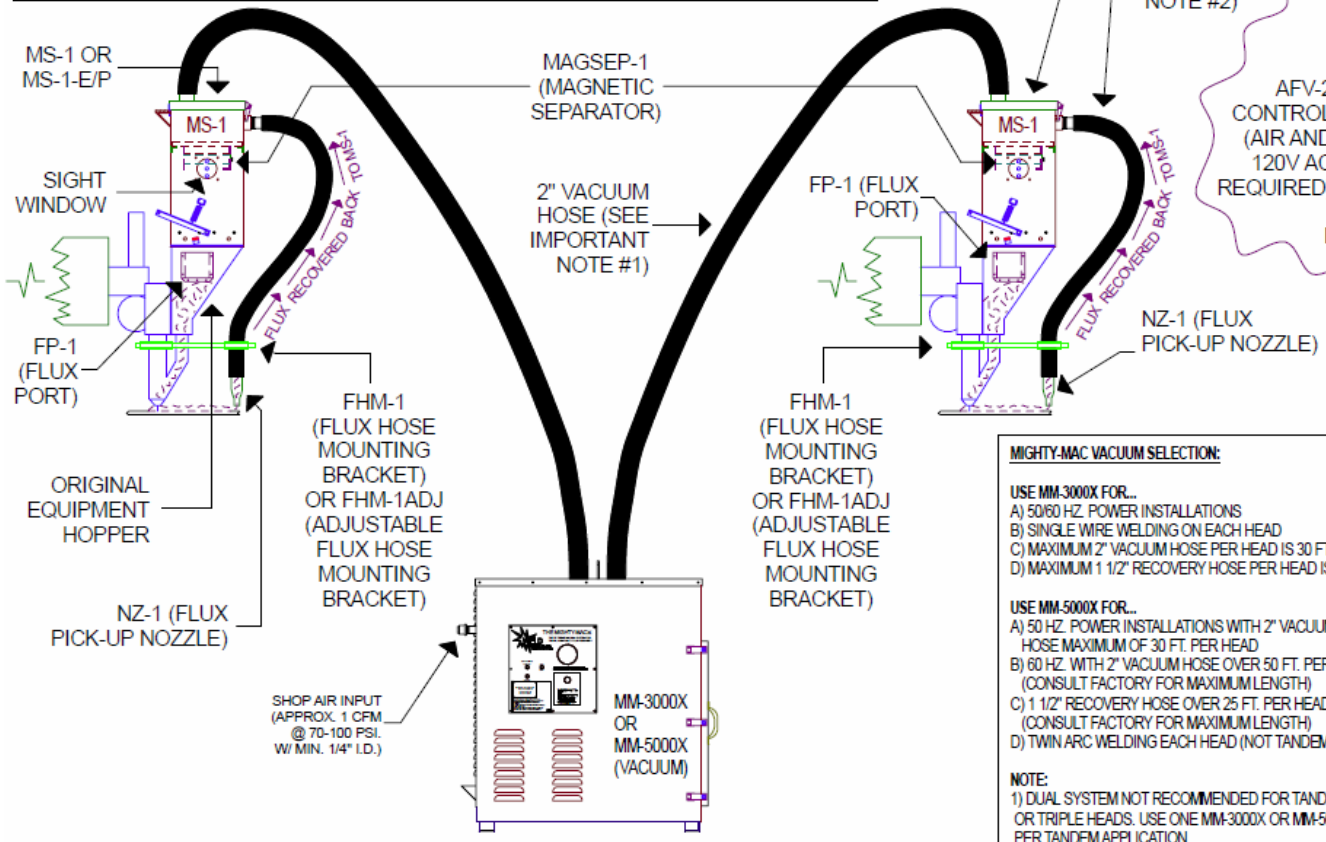
ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.



IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)



MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ MS-1 OR AUTOMATIC MS-1-E/P (SEPARATOR)
2@ MAGSEP-1 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
2@ FH-1 OR HFH-1 (FLUX HOPPER USED IN PLACE OF EXISTING HOPPER)
2@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
2@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER. SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)
2@ MADP-1 (ADAPTER FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 5) TB-MM708
FILE: 05-MMX~ 2 MS-1 TB-DRT 7-14-2008.CAD
REVISED: 2MS-1.CAD (12-3-96 TB-MM294)
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FIGURE MMX-6

FIG. MMX-6

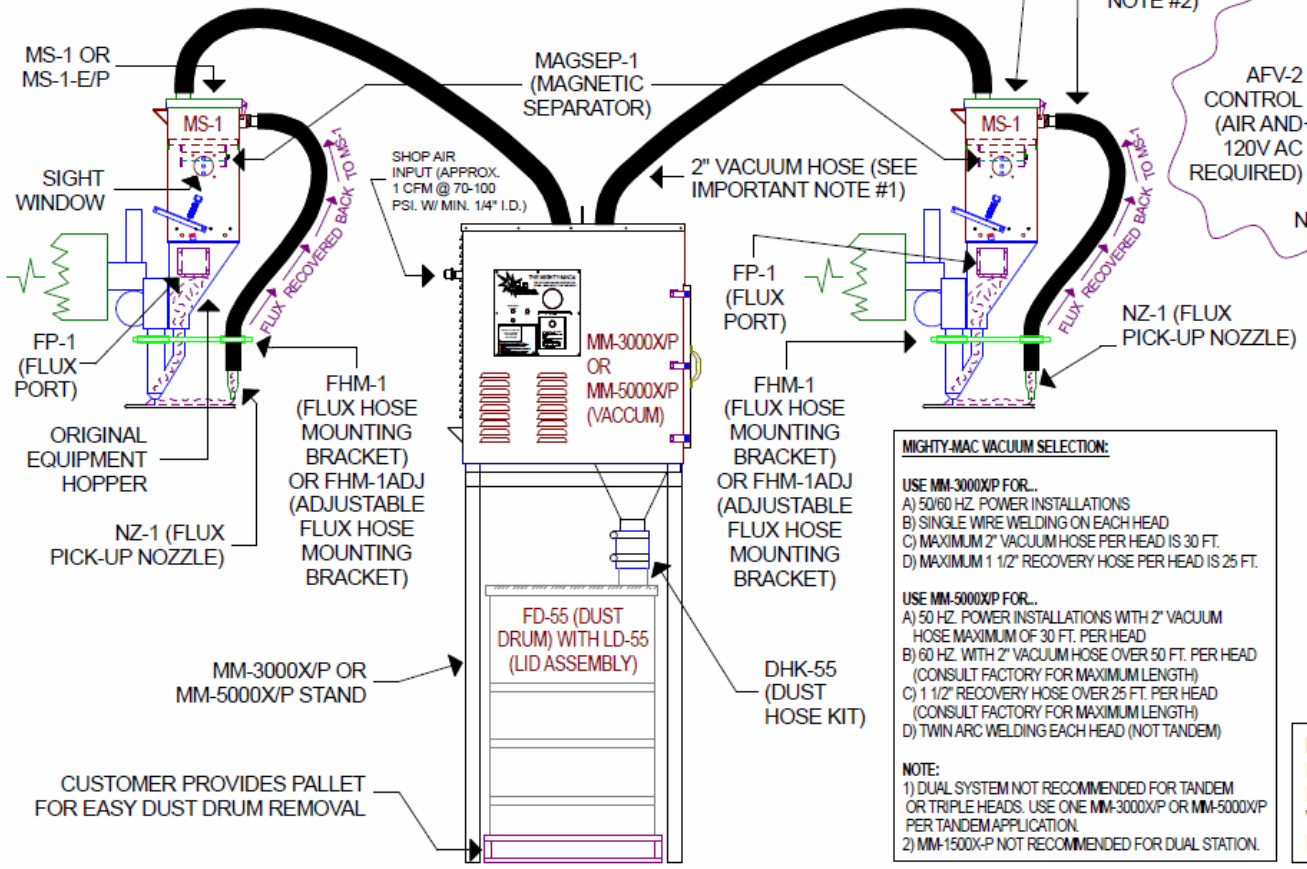
DUAL WELDING STATION FLUX RECOVERY SYSTEM. MM-3000X/P OR MM-5000X/P VACUUM WITH 2@ MS-1 OR MS-1-E/P SEPARATORS. (TYPICAL CONFIGURATION)

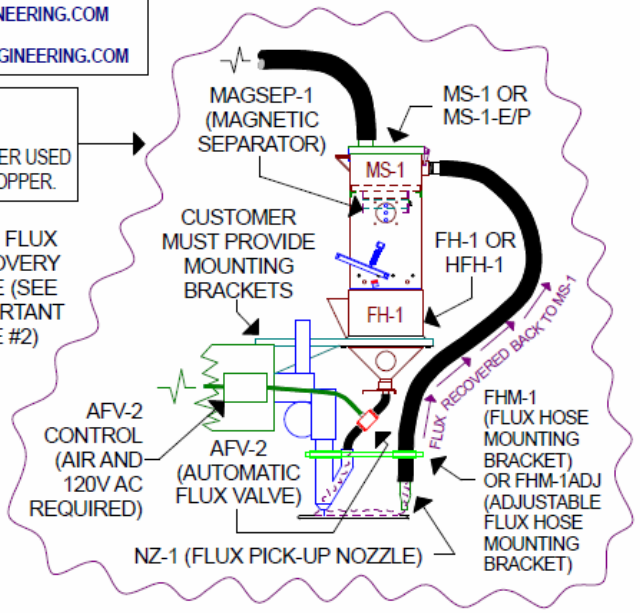
ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.

IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)





MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X/P FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X/P FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X/P OR MM-5000X/P PER TANDEM APPLICATION.
2) MM-1500X-P NOT RECOMMENDED FOR DUAL STATION.

SYSTEM ORDER LIST:

1@ MM-3000X/P OR MM-5000X/P (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
2@ MS-1 OR AUTOMATIC MS-1-E/P (SEPARATOR)
2@ MAGSEP-1 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
2@ FH-1 OR HFH-1 (FLUX HOPPER USED IN PLACE OF EXISTING HOPPER)
2@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
2@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ MM-3000X/P OR MM-5000X/P STAND
2@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER. SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)
2@ MADP-1 (ADAPTER FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 6) TB-MM708
FILE: 06-MMX~ 2 MS-1 MM-X-P TB-DRT 7-14-2008.CAD
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FIGURE MMX-7

FIG. MMX-7

DUAL WELDING STATION FLUX RECOVERY SYSTEM. MM-3000X OR MM-5000X VACUUM WITH 2@ MS-1 SEPARATORS AND 2 FT-100 FLUX TROUGHS. (TYPICAL CONFIGURATION)

IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)

MIGHTY-MAC VACUUM SELECTION:

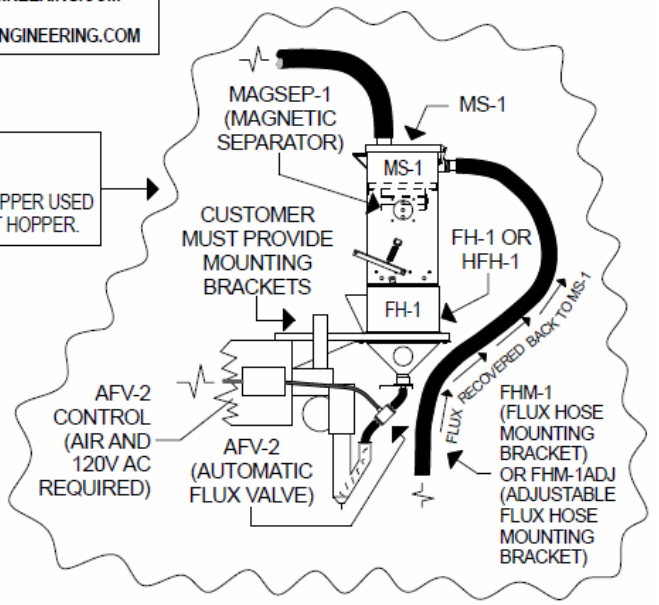
USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

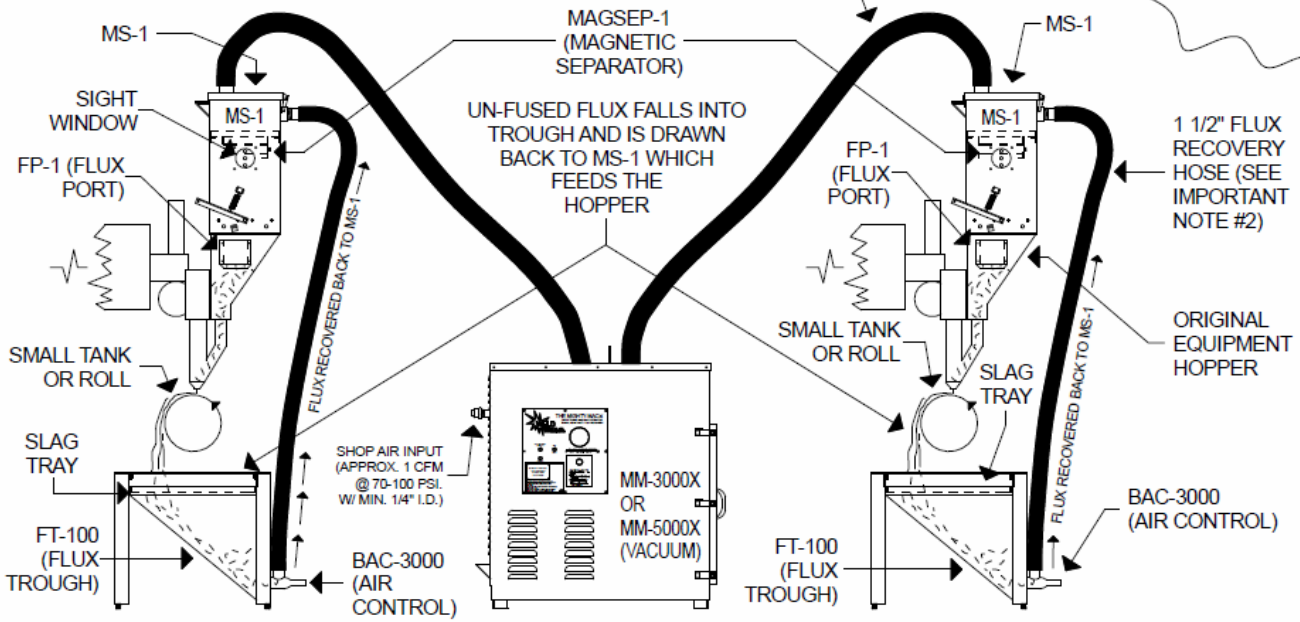
USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.





SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ MS-1 (SEPARATOR)
2@ MAGSEP-1 (MAGNETIC SEPARATOR)
2@ FT-100 (FLUX THROUGH)
2@ BAC-3000 (AIR CONTROL)
2@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
2@ FH-1 OR HFH-1 (FLUX HOPPER USED IN PLACE OF EXISTING HOPPER)
2@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)
2@ MADP-1 (ADAPTER FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 7) TB-MM708
FILE: 07-MMX~ 2 MS-1 BN TB-DRT 7-14-2008.CAD
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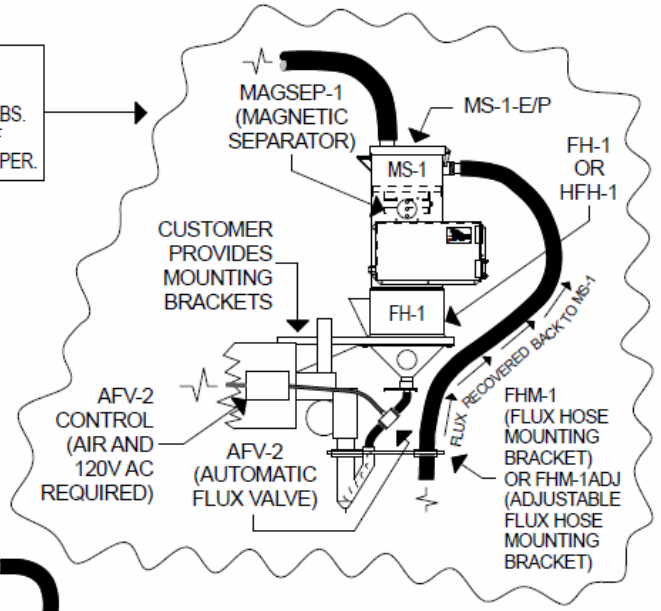
FIGURE MMX-8

FIG. MMX-8

DUAL WELDING STATION FLUX RECOVERY SYSTEM. MM-3000X OR MM-5000X VACUUM WITH 2@ MS-1-E/P SEPARATORS AND 2 FT-100 FLUX TROUGHS. (TYPICAL CONFIGURATION)

ALTERNATE CONFIGURATION:

FH-1 OR HEATED HFH-1 40 LBS. HOPPER USED INSTEAD OF ORIGINAL EQUIPMENT HOPPER.



MIGHTY-MACX VACUUM SELECTION:

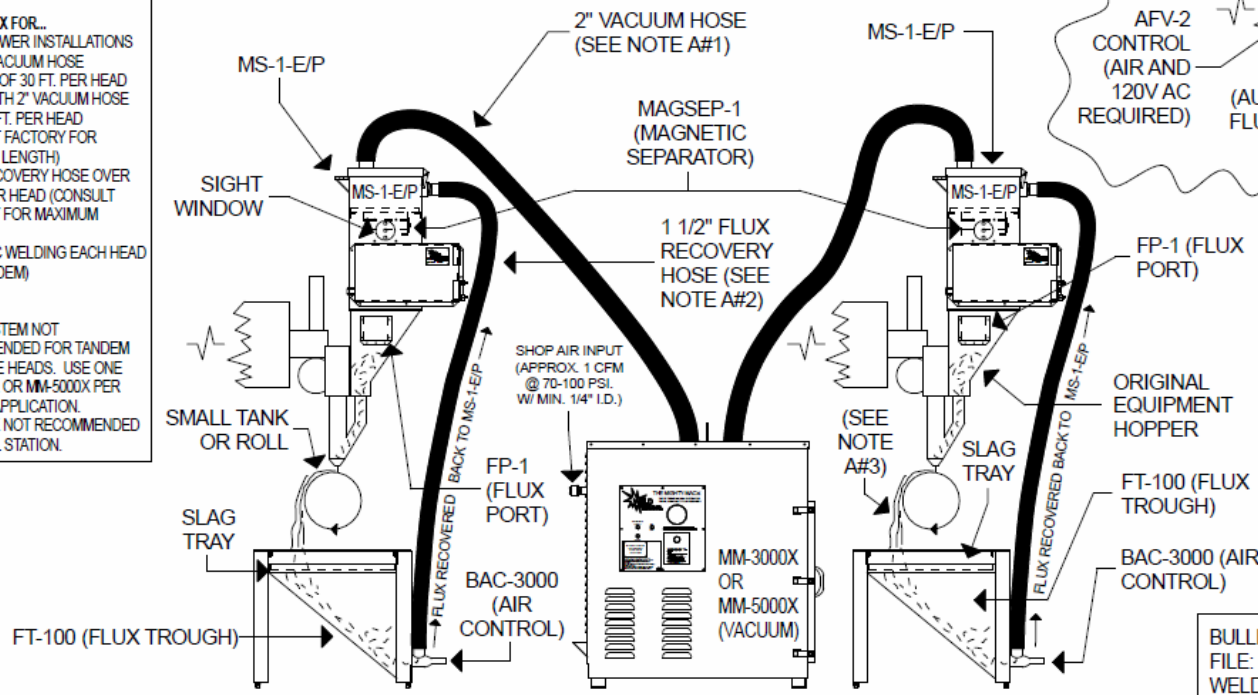
USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

NOTES A:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)
#3) UN-FUSED FLUX FALLS INTO TROUGH AND IS DRAWN BACK TO MS-1 AND HOPPER.



SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ MS-1-E/P (AUTOMATIC SEPARATOR)
2@ MAGSEP-1 (MAGNETIC SEPARATOR)
2@ FT-100 (FLUX THROUGH)
2@ BAC-3000 (AIR CONTROL)
2@ FP-1 (FLUX PORT USED TO ADD NEW FLUX)
2@ FH-1 OR HFH-1 (OPTIONAL FLUX HOPPER)
2@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL) (ONLY IF USING FH-1 OR HFH-1)
2@ 1 1/2" RECOVERY HOSE (SEE NOTE A#2)
2@ 2" VACUUM HOSE (SEE NOTE A#1)
2@ MADP-1 (ADAPTER FOR OLDER MILLER HOPPER)

BULLETIN: (PAGE 8) TB-MM708
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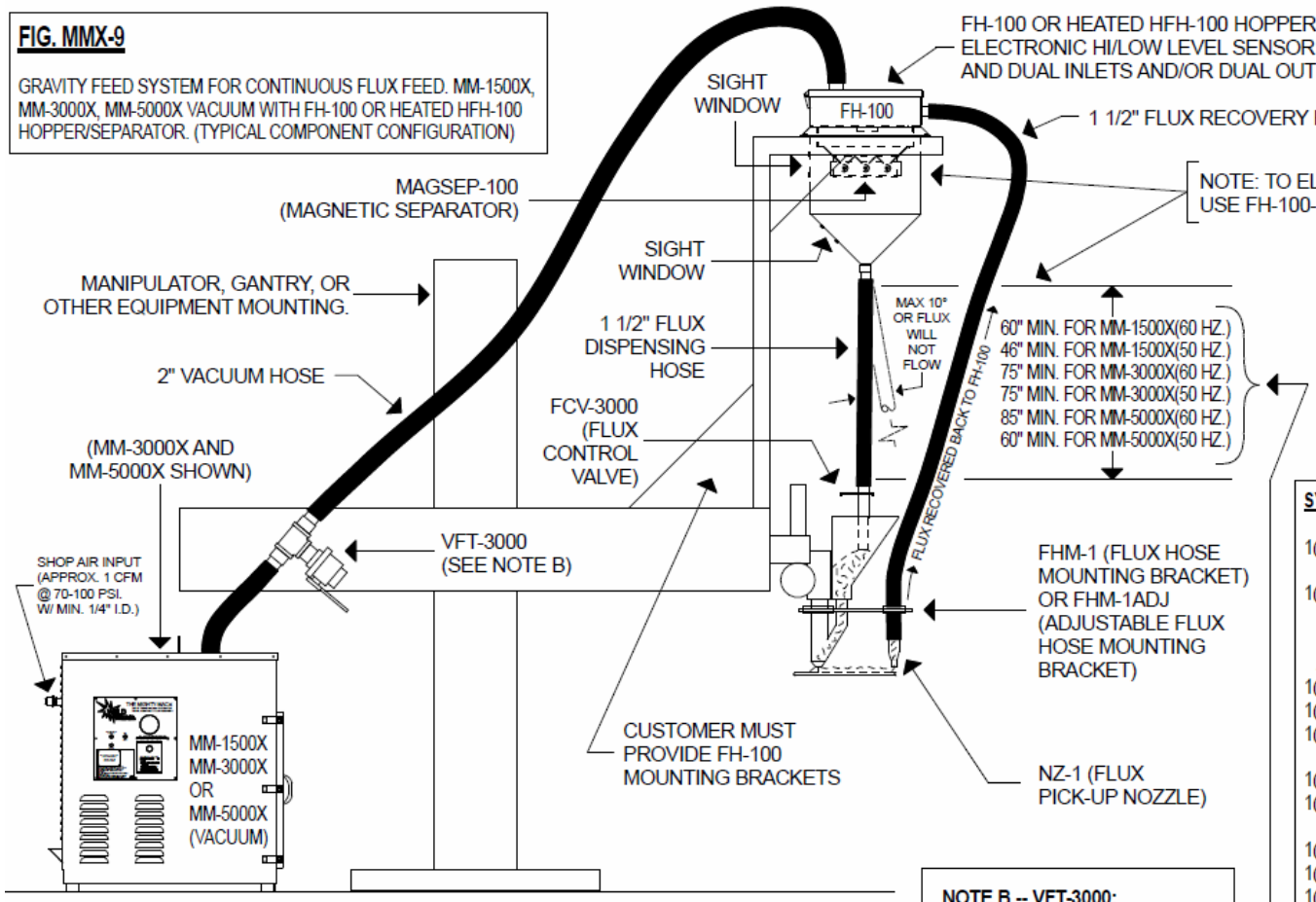
FIGURE MMX-9

FIG. MMX-9

GRAVITY FEED SYSTEM FOR CONTINUOUS FLUX FEED. MM-1500X, MM-3000X, MM-5000X VACUUM WITH FH-100 OR HEATED HFH-100 HOPPER/SEPARATOR. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X, OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE) (SEE NOTE B FOR ADJUSTING "HEAD HEIGHT")
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A -- MIIGHTY-MACX VACUUM SELECTION:

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B -- VFT-3000:

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, ABOVE HEIGHT REQUIREMENTS FOR FH-100 MAY ALSO BE REDUCED.

BULLETIN: (PAGE 9) TB-MM708
FILE: 09-MMX~ FH-100 MM-X TB-DRT 7-7-2008.CAD
REVISED: 2MMFH100.CAD (7-16-1996 TB-MM294)
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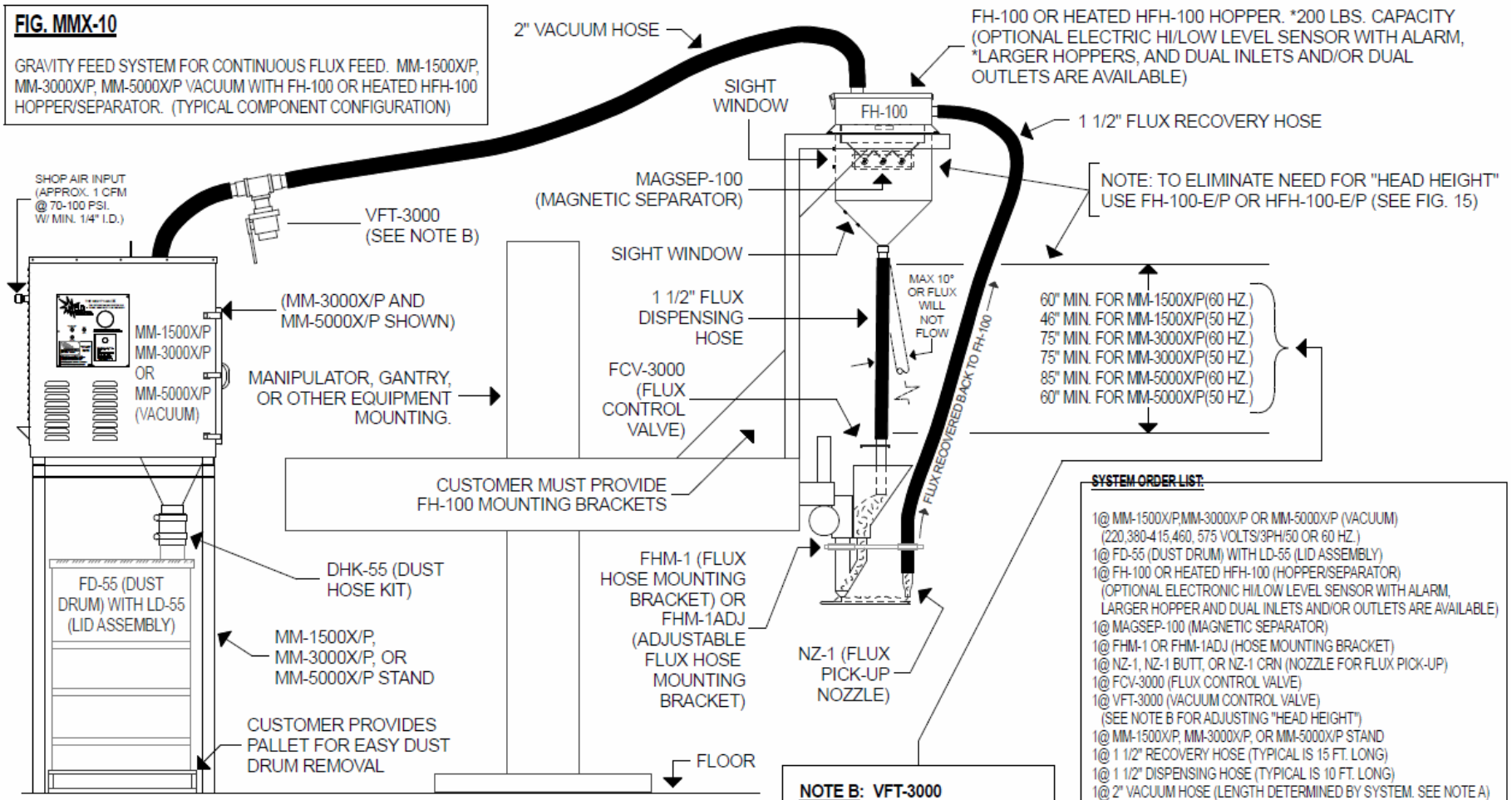
FIGURE MMX-10

FIG. MMX-10

GRAVITY FEED SYSTEM FOR CONTINUOUS FLUX FEED. MM-1500X/P, MM-3000X/P, MM-5000X/P VACUUM WITH FH-100 OR HEATED HFH-100 HOPPER/SEPARATOR. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-1500X/P,MM-3000X/P OR MM-5000X/P (VACUUM)
(220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR)
(OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE)
(SEE NOTE B FOR ADJUSTING "HEAD HEIGHT")
1@ MM-1500X/P, MM-3000X/P, OR MM-5000X/P STAND
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIIGHTY-MACX VACUUM SELECTION

MM-1500X/P FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X/P FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X/P FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, ABOVE HEIGHT REQUIREMENTS FOR FH-100 MAY ALSO BE REDUCED.

BULLETIN: (PAGE 10) TB-MM708
FILE: 10-MMX~ FH-100 MM-X-P TB-DRT 7-11-2008.CAD
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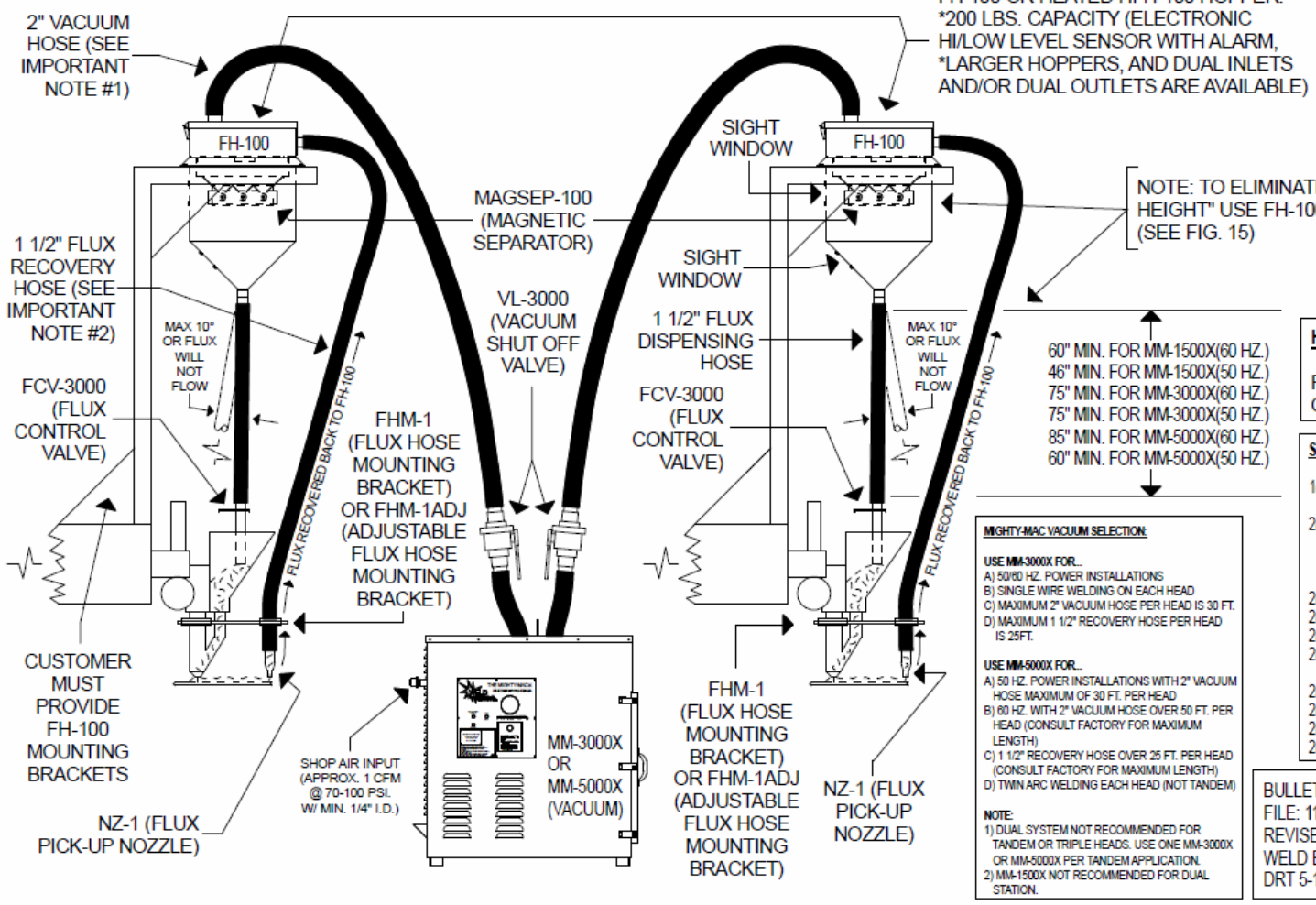
FIGURE MMX-11

FIG. MMX-11

DUAL WELDING STATION FLUX RECOVERY SYSTEM. MIGHTY-MAC 3000X OR 5000X VACUUM WITH 2 @ FH-100 OR HFH-100 HOPPER/SEPARATORS. (TYPICAL CONFIGURATION)



IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)

#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)

HEAVY DUST REMOVAL:

FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.

SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ NZ-1, OR NZ-1 BUTT OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ FCV-3000 (FLUX CONTROL VALVE)
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

BULLETIN: (PAGE 11) TB-MM708
FILE: 11-MMX~ 2 FH-100 MM-X TB-DRT 7-14-2008.CAD
REVISED: 2FH-100.CAD (7-16-1996 TB-MM294)
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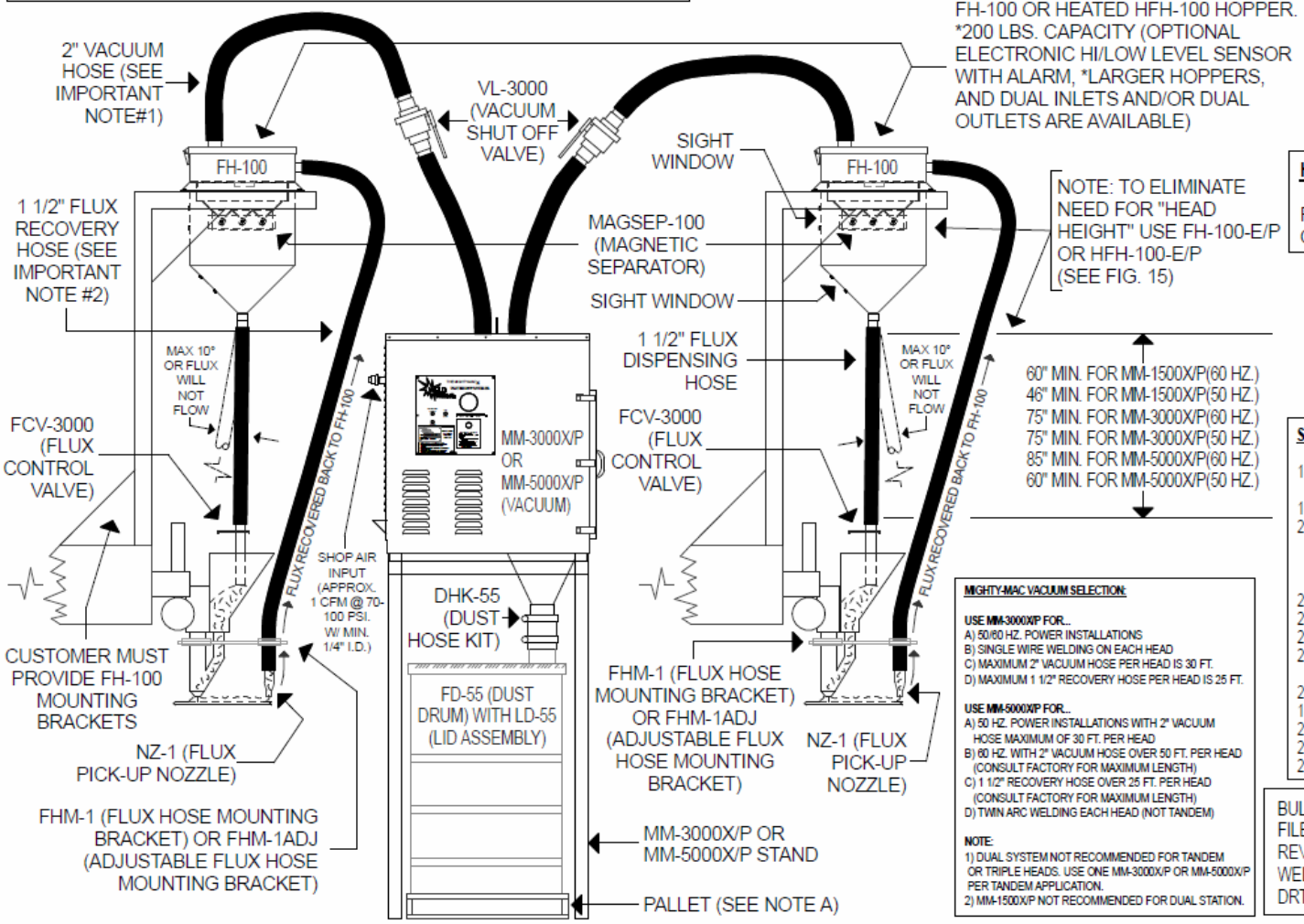
FIGURE MMX-12

FIG. MMX-12

DUAL WELDING STATION FLUX RECOVERY SYSTEM. MM-3000X/P ORMM-5000X/P VACUUM WITH 2@ FH-100 OR HFH-100 HOPPER/SEPARATORS. (TYPICAL CONFIGURATION)



IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)

#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)

HEAVY DUST REMOVAL:

FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.

NOTE A -- PALLET:

CUSTOMER PROVIDES A PALLET FOR EASY DUST DRUM REMOVAL.

SYSTEM ORDER LIST:

1@ MM-3000X/P OR MM-5000X/P (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
2@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR)
(OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ FCV-3000 (FLUX CONTROL VALVE)
1@ MM-3000X/P OR MM-5000X/P STAND
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X/P FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X/P FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X/P OR MM-5000X/P PER TANDEM APPLICATION.
2) MM-1500X/P NOT RECOMMENDED FOR DUAL STATION.

BULLETIN: (PAGE 12) TB-MM708
FILE: 12-MMX~ 2 FH-100 MM-X-P DRT 7-2-2008.CAD
REVISED: 2FH-100P.CAD (7-16-96 TB-MM294)
WELD ENGINEERING CO., INC
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FIGURE MMX-13A

FIG. MMX-13A

SMALL TANK OR ROLL BUILD-UP. DUAL WELDING STATION FLUX RECOVERY SYSTEM. MIGHTY-MAC 3000X/P OR 5000X/P VACUUM WITH 2@ FH-100 OR HFH-100 HOPPER/SEPARATORS. (TYPICAL CONFIGURATION)

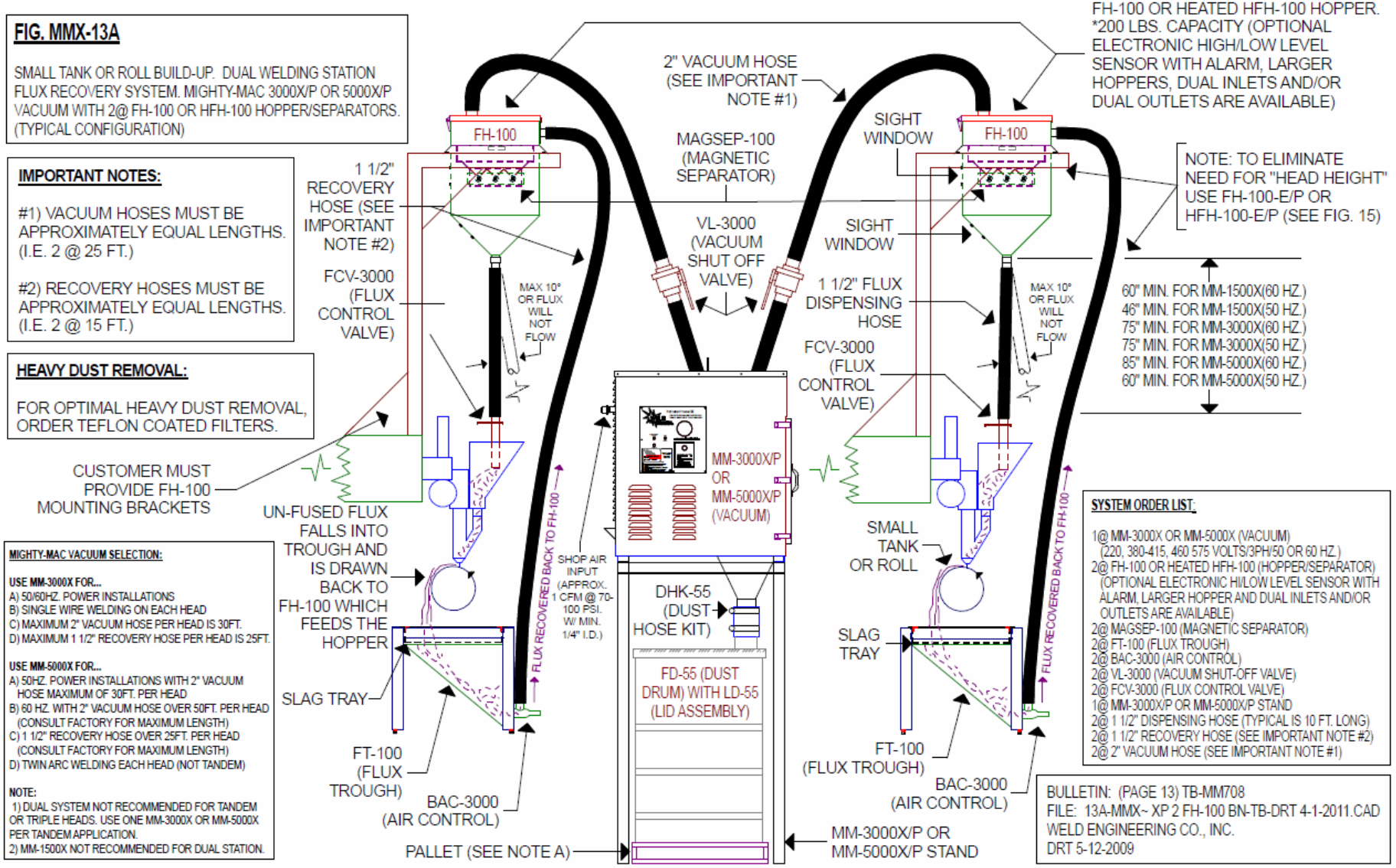
IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)

#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)

HEAVY DUST REMOVAL:

FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.



MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25FT.

USE MM-5000X FOR...
A) 50HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460 575 VOLTS/3PH/50 OR 60 HZ.)
2@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FT-100 (FLUX TROUGH)
2@ BAC-3000 (AIR CONTROL)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ FCV-3000 (FLUX CONTROL VALVE)
1@ MM-3000X/P OR MM-5000X/P STAND
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

BULLETIN: (PAGE 13) TB-MM708
FILE: 13A-MMX~ XP 2 FH-100 BN-TB-DRT 4-1-2011.CAD
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FIGURE MMX-13

FIG. MMX-13

SMALL TANK OR ROLL BUILD-UP. DUAL WELDING STATION FLUX RECOVERY SYSTEM. MIGHTY-MAC 3000X OR 5000X VACUUM WITH 2@ FH-100 OR HFH-100 HOPPER/SEPARATORS. (TYPICAL CONFIGURATION)

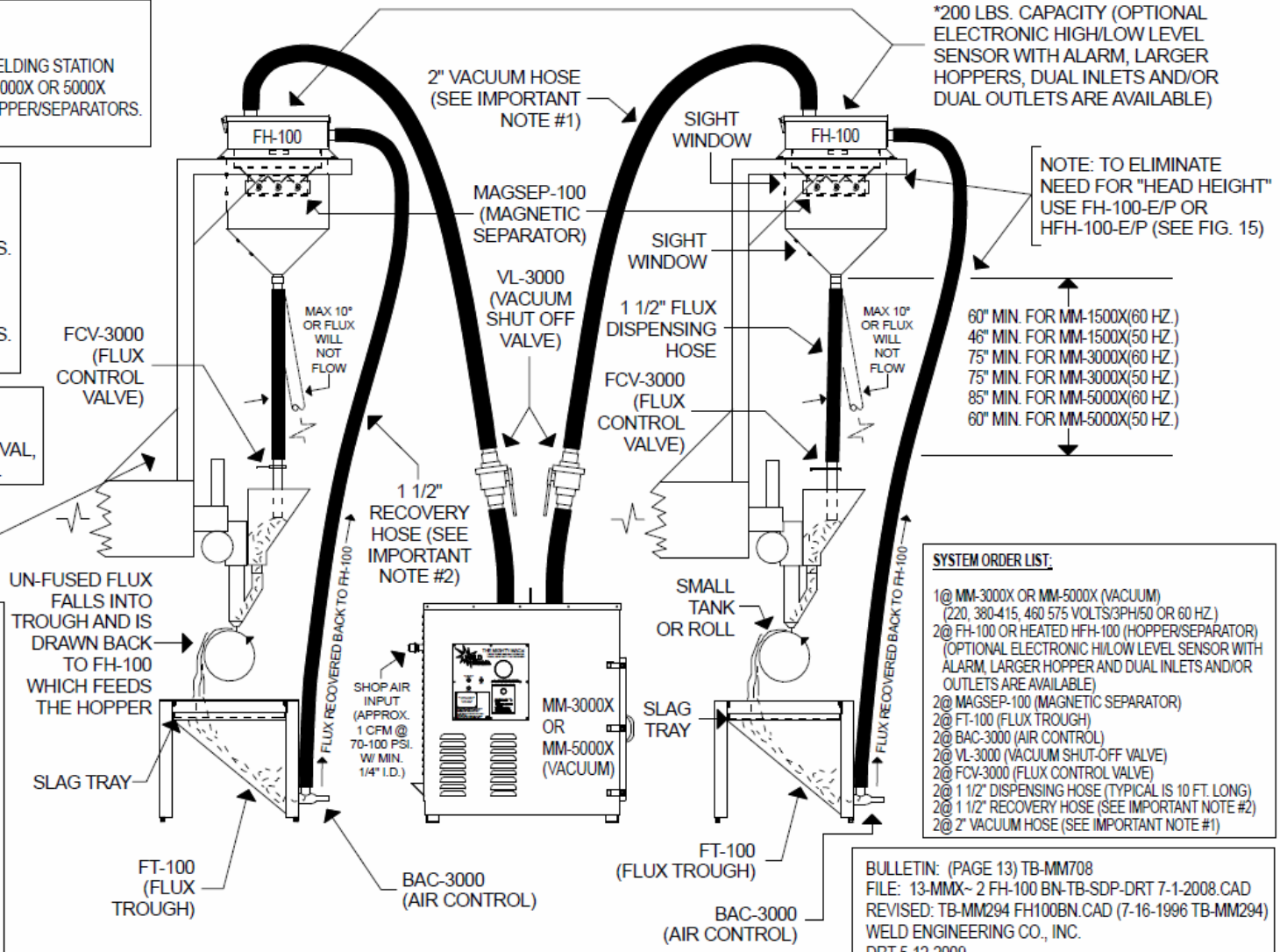
IMPORTANT NOTES:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)

#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)

HEAVY DUST REMOVAL:

FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.



MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460 575 VOLTS/3PH/50 OR 60 HZ.)
2@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FT-100 (FLUX TROUGH)
2@ BAC-3000 (AIR CONTROL)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ FCV-3000 (FLUX CONTROL VALVE)
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

BULLETIN: (PAGE 13) TB-MM708
FILE: 13-MMX~ 2 FH-100 BN-TB-SDP-DRT 7-1-2008.CAD
REVISED: TB-MM294 FH100BN.CAD (7-16-1996 TB-MM294)
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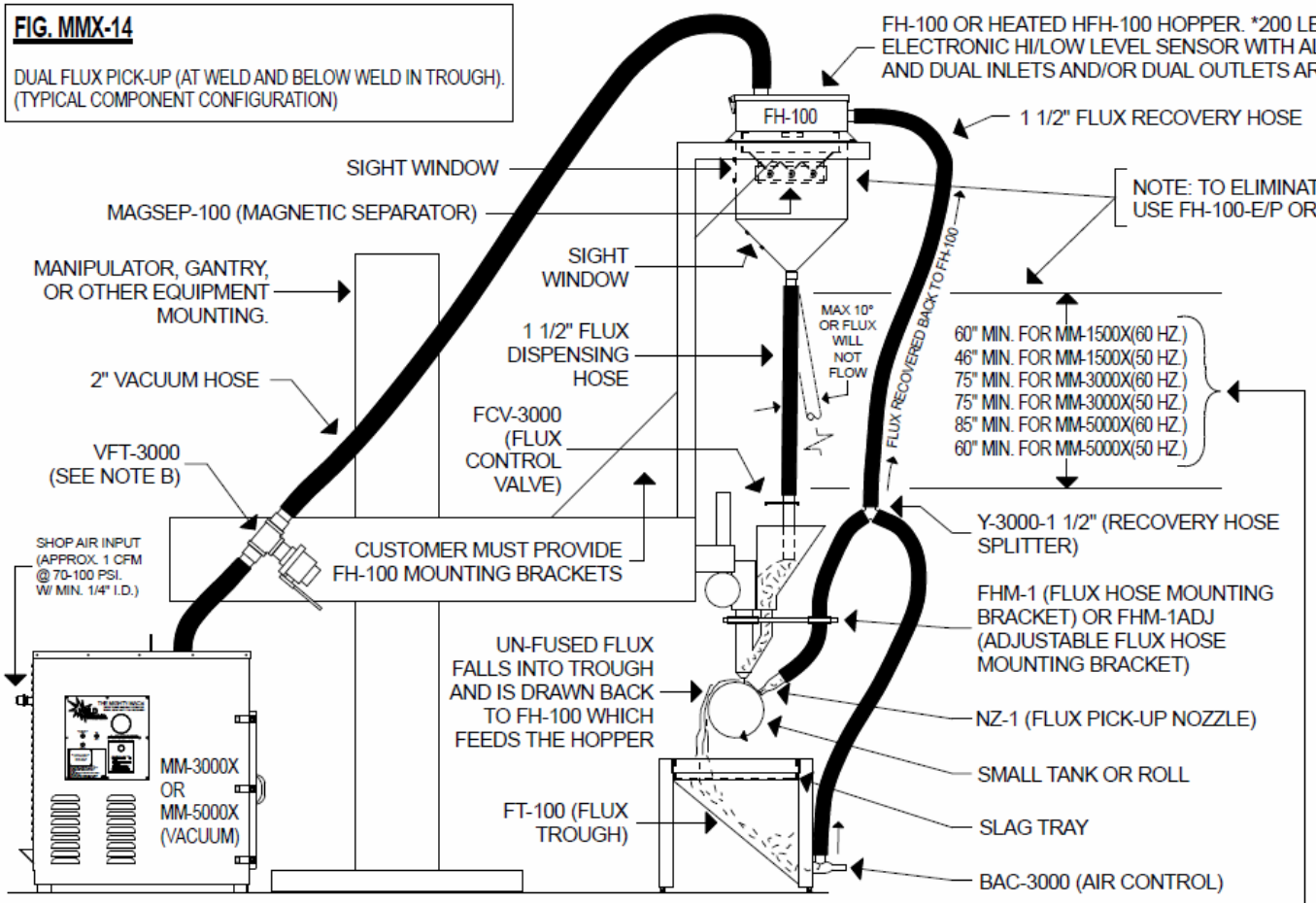
FIGURE MMX-14

FIG. MMX-14

DUAL FLUX PICK-UP (AT WELD AND BELOW WELD IN TROUGH).
(TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM)
(220,380-415,460,575 VOLTS/3PH/50 OR 60 HZ.)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR)
(OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE)
(SEE NOTE B FOR ADJUSTING "HEAD HEIGHT")
1@ Y-3000-1 1/2" (RECOVERY HOSE SPLITTER)
2@ FA-3000 (SHUT OFF VALVES)
1@ BAC-3000 (AIR CONTROL)
1@ FT-100 (FLUX TROUGH)
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 25 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, ABOVE HEIGHT REQUIREMENTS FOR FH-100 MAY ALSO BE REDUCED.

BULLETIN: (PAGE 14) TB-MM708
FILE: 14-MMX~ FH-100 NOZ BN TB-DRT 7-14-2008.CAD
REVISED: NOZ-BIN.CAD (7-16-1996 TB-MM294)
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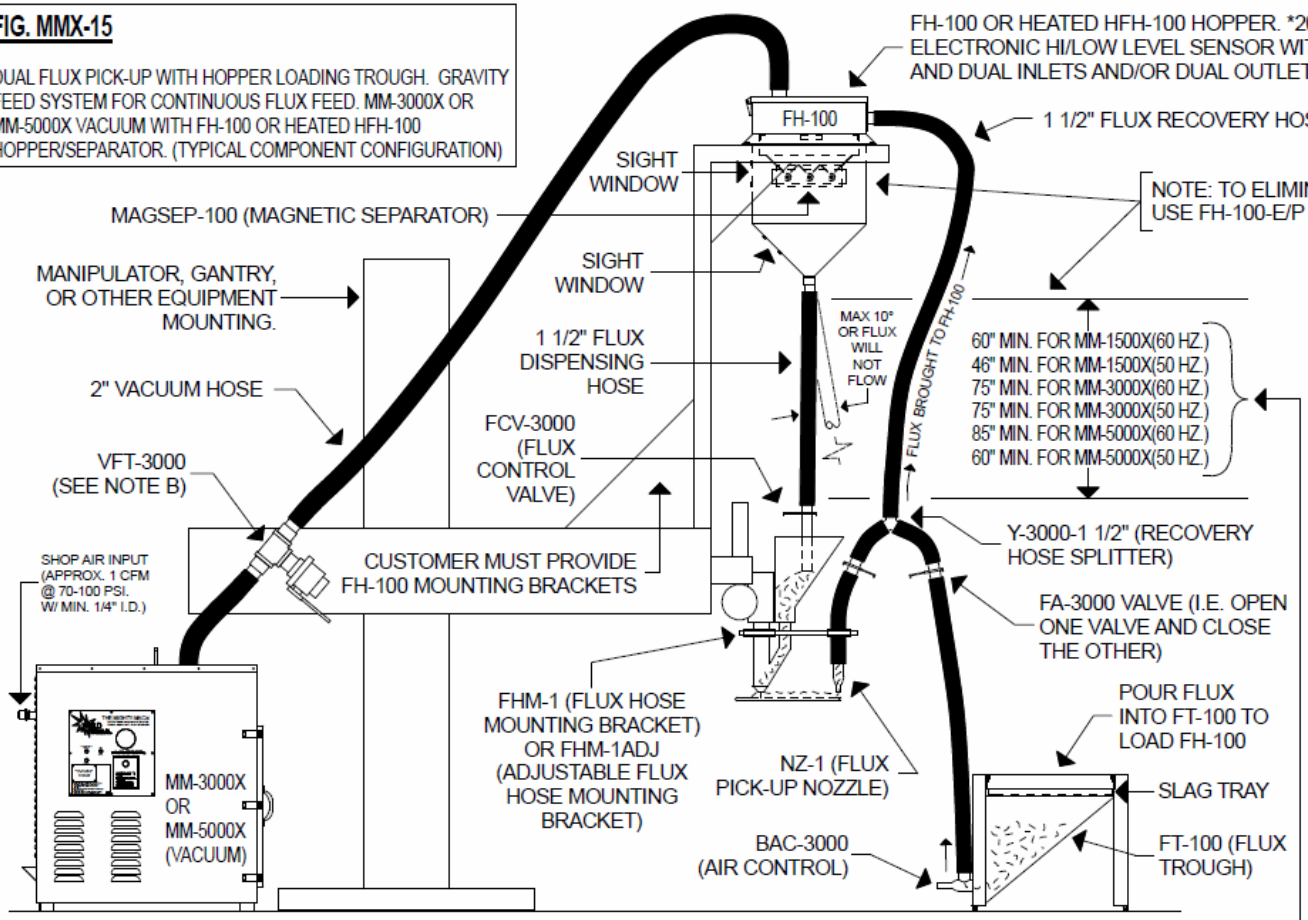
FIGURE MMX-15

FIG. MMX-15

DUAL FLUX PICK-UP WITH HOPPER LOADING TROUGH. GRAVITY FEED SYSTEM FOR CONTINUOUS FLUX FEED. MM-3000X OR MM-5000X VACUUM WITH FH-100 OR HEATED HFH-100 HOPPER/SEPARATOR. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@MM-3000X OR MM-5000X (VACUUM) (220,380-415,460,575 VOLTS/3PH/50 OR 60 HZ.)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE) (SEE NOTE B FOR ADJUSTING "HEAD HEIGHT")
1@ Y-3000-1 1/2" (RECOVERY HOSE SPLITTER)
2@ FA-3000 (SHUT OFF VALVES)
1@ BAC-3000 (AIR CONTROL)
1@ FT-100 (FLUX TROUGH)
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 25 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, ABOVE HEIGHT REQUIREMENTS FOR FH-100 MAY ALSO BE REDUCED.

BULLETIN: (PAGE 15) TB-MM708
FILE: 15-MMX~ FH-100 BN LOADING TB-DRT 7-15-2008.CAD
REVISED: HOP-LOAD.CAD (7-16-1996 TB-MM294)
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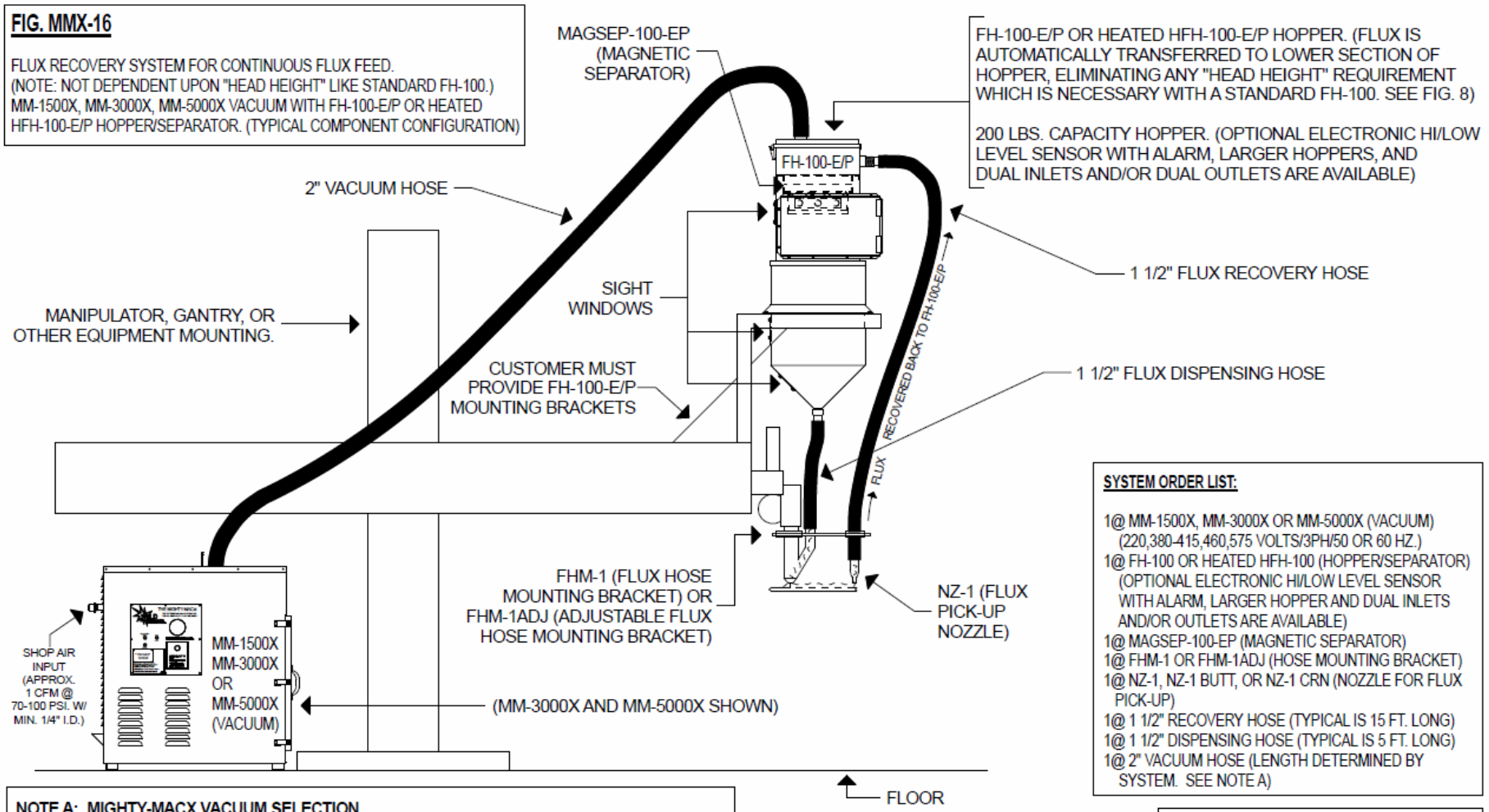
FIGURE MMX-16

FIG. MMX-16

FLUX RECOVERY SYSTEM FOR CONTINUOUS FLUX FEED.
(NOTE: NOT DEPENDENT UPON "HEAD HEIGHT" LIKE STANDARD FH-100.)
MM-1500X, MM-3000X, MM-5000X VACUUM WITH FH-100-E/P OR HEATED HFH-100-E/P HOPPER/SEPARATOR. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220,380-415,460,575 VOLTS/3PH/50 OR 60 HZ.)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100-EP (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 5 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

BULLETIN: (PAGE 16) TB-MM708
FILE: 16-MMX~ FH-100-EP TB-DRT 7-10-2008.CAD
REVISED: MMFH100-EP.CAD (7-16-1996, TB-MM294)
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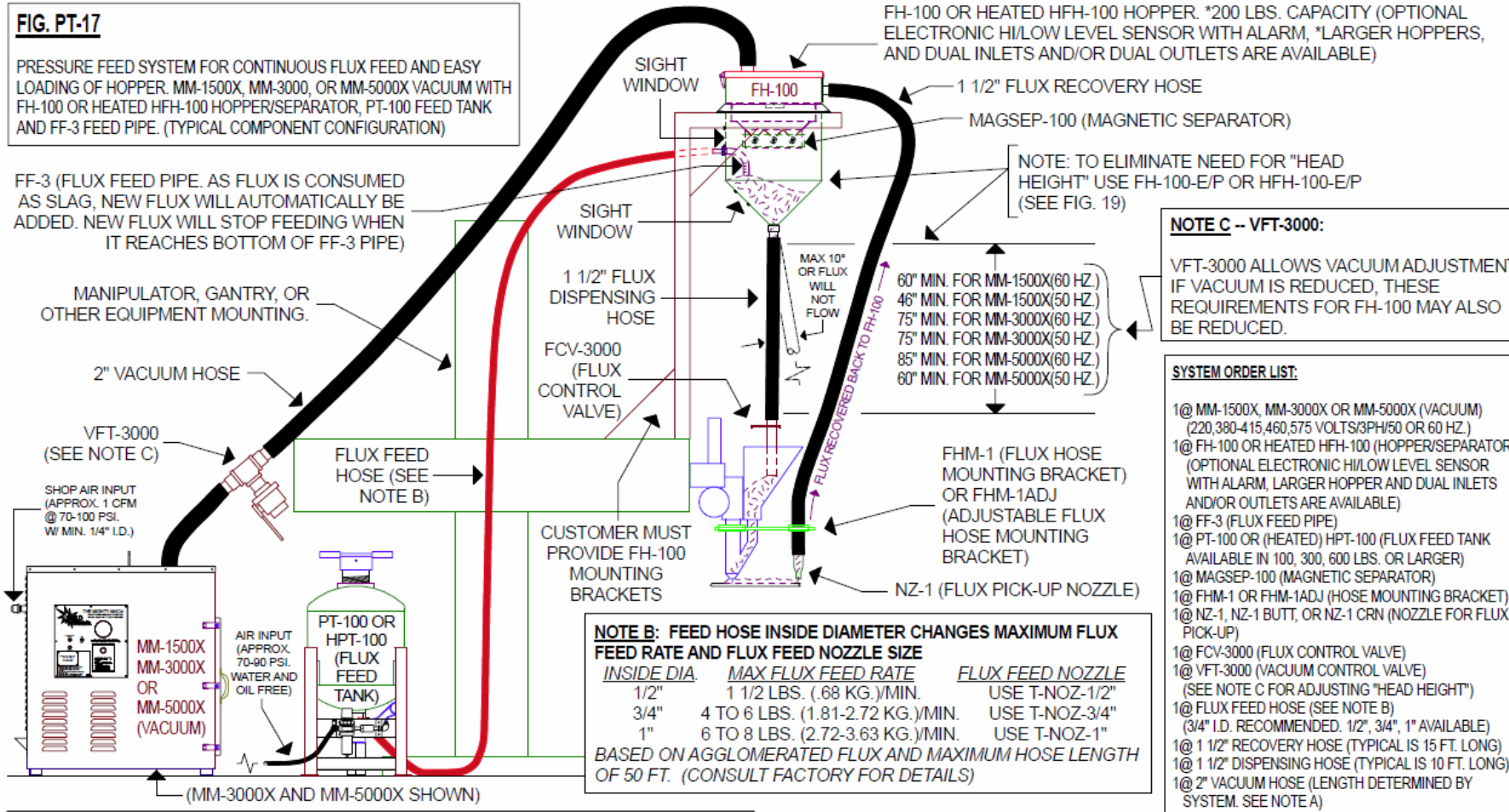
FIGURE PT-17

FIG. PT-17

PRESSURE FEED SYSTEM FOR CONTINUOUS FLUX FEED AND EASY LOADING OF HOPPER. MM-1500X, MM-3000, OR MM-5000X VACUUM WITH FH-100 OR HEATED HFH-100 HOPPER/SEPARATOR, PT-100 FEED TANK AND FF-3 FEED PIPE. (TYPICAL COMPONENT CONFIGURATION)



NOTE C -- VFT-3000:

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, THESE REQUIREMENTS FOR FH-100 MAY ALSO BE REDUCED.

SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220,380-415,460,575 VOLTS/3PH/50 OR 60 HZ.)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ FF-3 (FLUX FEED PIPE)
1@ PT-100 OR (HEATED) HPT-100 (FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE) (SEE NOTE C FOR ADJUSTING "HEAD HEIGHT")
1@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIA.	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

BULLETIN: (PAGE 17) TB-MM708
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FIGURE PT-18

FIG. PT-18

PRESSURE FEED DUAL WELDING STATION FLUX RECOVERY SYSTEM. MM-3000X OR MM-5000X VACUUM WITH 2@ FH-100 OR HFH-100 SEPARATORS, PT-100 FEED TANK, AND FF-3 FEED PIPE. (TYPICAL CONFIGURATION)

NOTES A:

#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)
#3) FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.
#4) AS FLUX BECOMES SLAG, NEW FLUX IS AUTOMATICALLY ADDED. NEW FLUX WILL STOP FEEDING WHEN IT REACHES BOTTOM OF FF-3 PIPE.
#5) *200 LBS. CAPACITY. OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPERS, AND DUAL INLETS AND/OR OUTLETS AVAILABLE)

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIA.	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

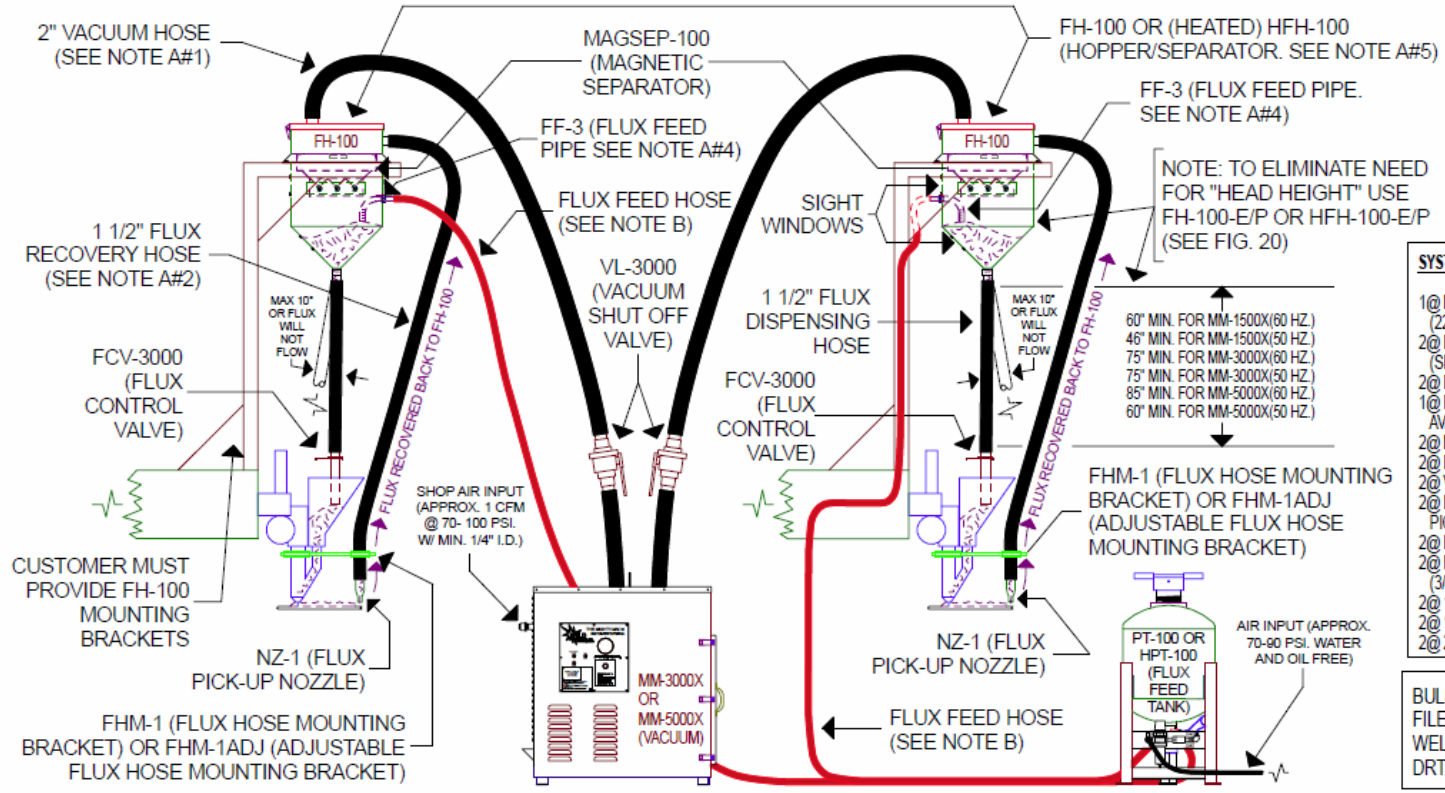
BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.



SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR)
(SEE NOTE A#5)
2@ FF-3 (FLUX FEED PIPE)
1@ PT-100 OR (HEATED) HPT-100 (FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ FCV-3000 (FLUX CONTROL VALVE)
2@ FLUX FEED HOSE (SEE NOTE B)
(3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

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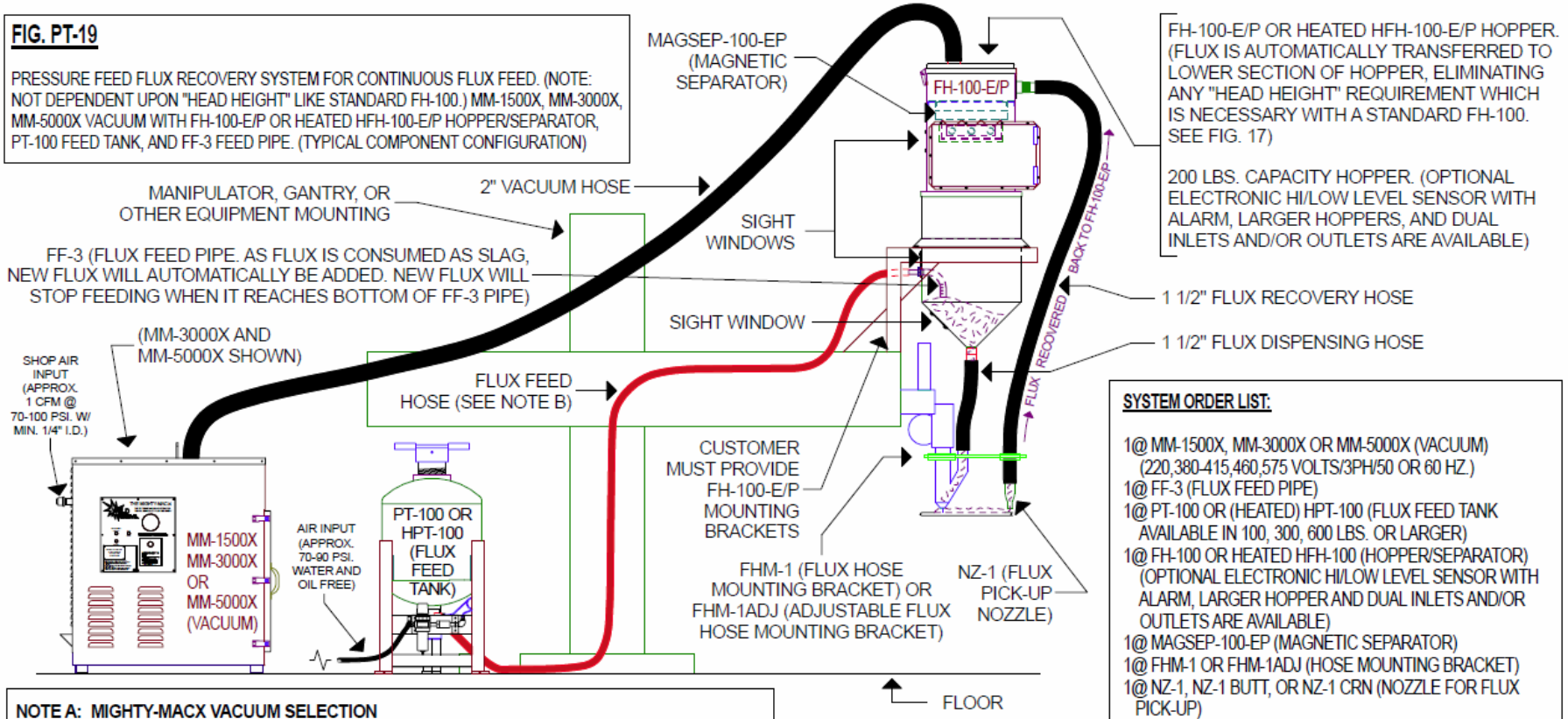
FIGURE PT-19

FIG. PT-19

PRESSURE FEED FLUX RECOVERY SYSTEM FOR CONTINUOUS FLUX FEED. (NOTE: NOT DEPENDENT UPON "HEAD HEIGHT" LIKE STANDARD FH-100.) MM-1500X, MM-3000X, MM-5000X VACUUM WITH FH-100-E/P OR HEATED HFH-100-E/P HOPPER/SEPARATOR, PT-100 FEED TANK, AND FF-3 FEED PIPE. (TYPICAL COMPONENT CONFIGURATION)



FH-100-E/P OR HEATED HFH-100-E/P HOPPER. (FLUX IS AUTOMATICALLY TRANSFERRED TO LOWER SECTION OF HOPPER, ELIMINATING ANY "HEAD HEIGHT" REQUIREMENT WHICH IS NECESSARY WITH A STANDARD FH-100. SEE FIG. 17)

200 LBS. CAPACITY HOPPER. (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPERS, AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)

SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220,380-415,460,575 VOLTS/3PH/50 OR 60 HZ.)
1@ FF-3 (FLUX FEED PIPE)
1@ PT-100 OR (HEATED) HPT-100 (FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100-EP (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 5 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

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FIGURE PT-20

FIG. PT-20

PRESSURE FEED DUAL WELDING STATION FLUX RECOVERY SYSTEM FOR CONTINUOUS FLUX FEED NOT DEPENDENT UPON "HEAD HEIGHT" LIKE STANDARD FH-100. MM-3000X OR MM-5000X VACUUM WITH 2@ FH-100-E/P OR HFH-100-E/P SEPARATORS, PT-100 FEED TANK, AND FF-3 FEED PIPE. (TYPICAL CONFIGURATION)

NOTES A:
#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)
#3) FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.
#4) AS FLUX BECOMES SLAG, NEW FLUX IS AUTOMATICALLY ADDED. NEW FLUX WILL STOP FEEDING WHEN IT REACHES BOTTOM OF FF-3 PIPE.
#5) *200 LBS. CAPACITY. OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPERS, AND DUAL INLETS AND/OR OUTLETS AVAILABLE)

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIA.	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

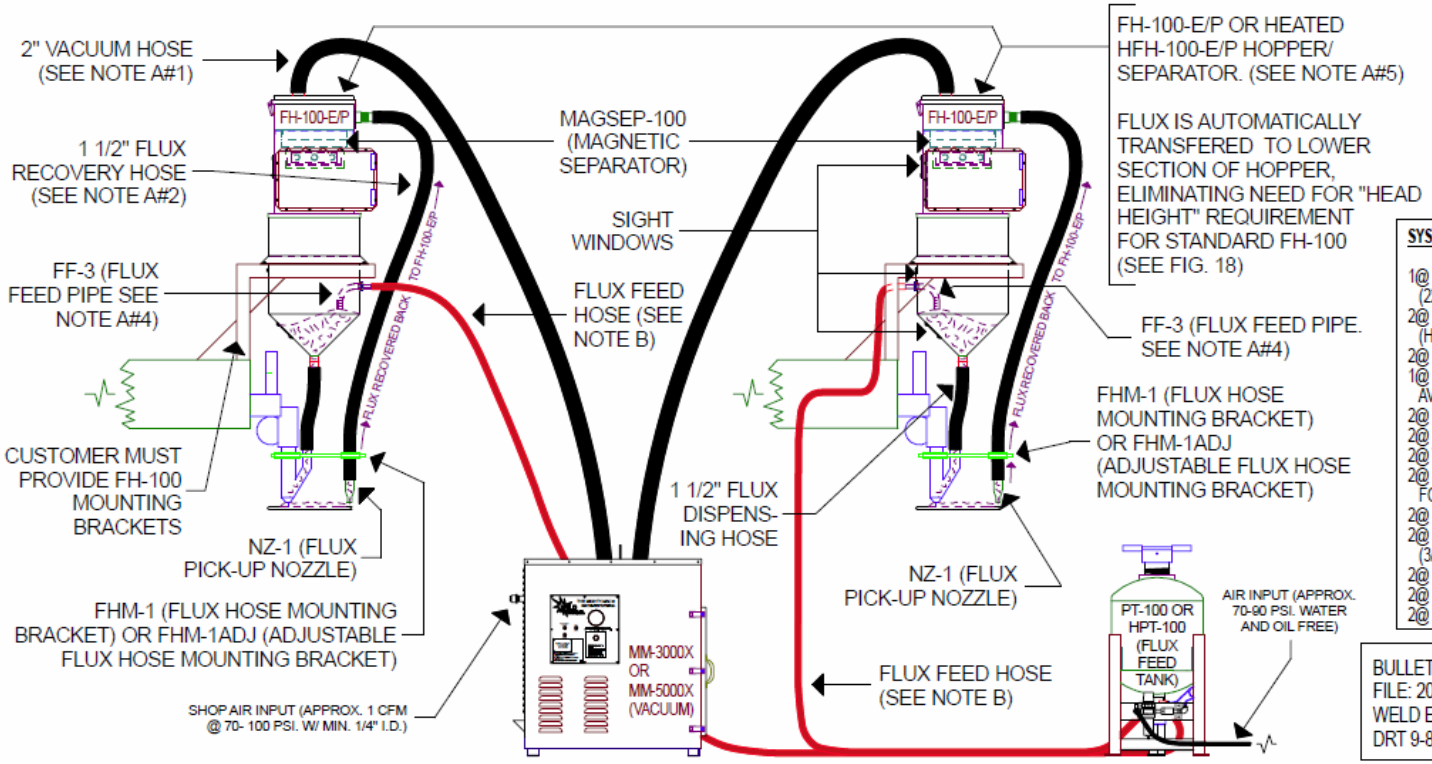
BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.



SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ FH-100-E/P OR (HEATED) HFH-100-E/P (HOPPER/SEPARATOR. SEE NOTE A#5)
2@ FF-3 (FLUX FEED PIPE)
1@ PT-100 OR (HEATED) HPT-100 (FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ STANDARD NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ FCV-3000 (FLUX CONTROL VALVE)
2@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 5 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

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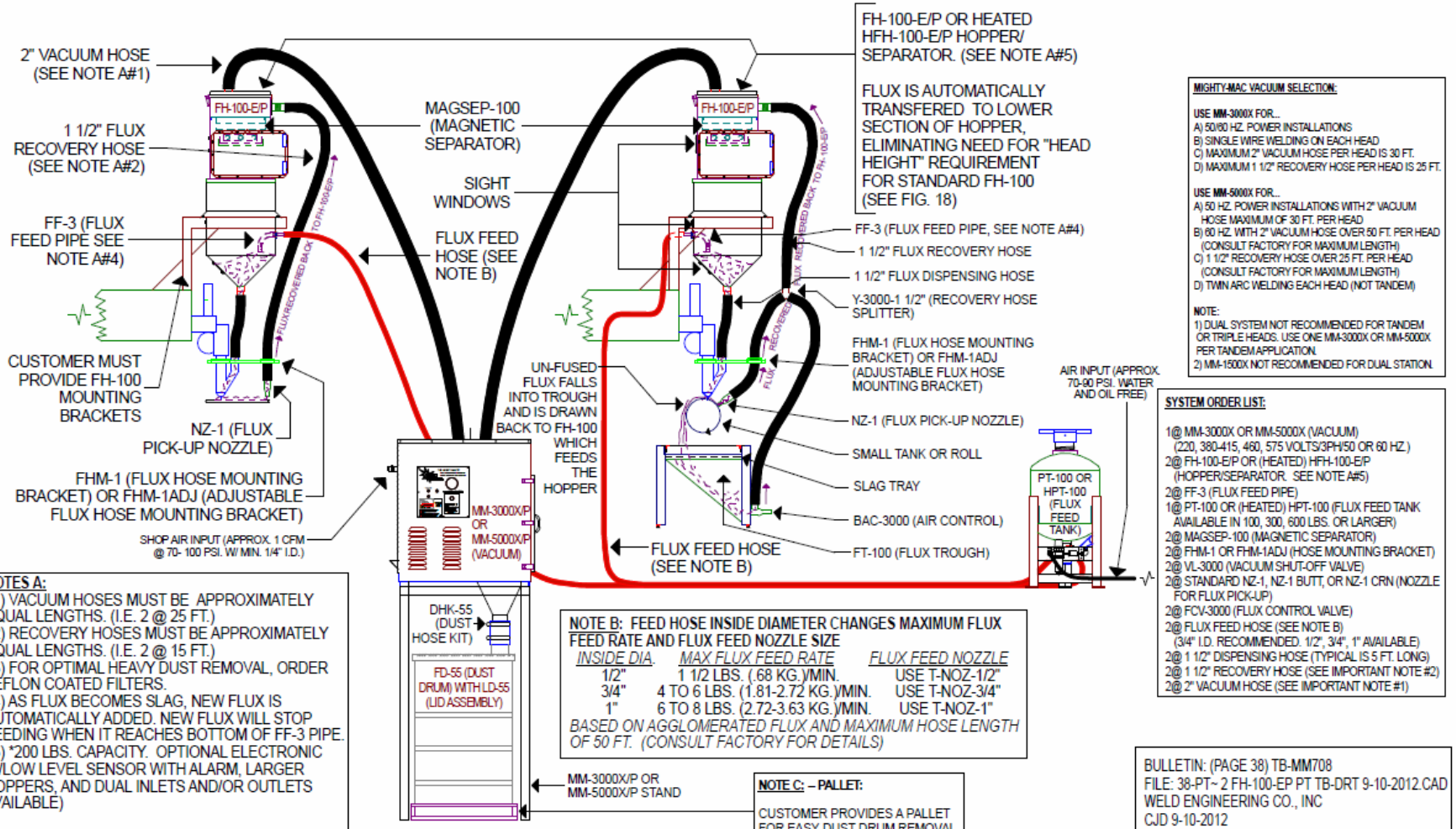
FIGURE PT-38

FIG. PT-38

PRESSURE FEED DUAL WELDING STATION FLUX RECOVERY SYSTEM FOR CONTINUOUS FLUX FEED NOT DEPENDENT UPON "HEAD HEIGHT" LIKE STANDARD FH-100. MM-3000X OR MM-5000X VACUUM WITH 2@ FH-100-E/P OR HFH-100-E/P SEPARATORS, PT-100 FEED TANK, AND FF-3 FEED PIPE. (TYPICAL CONFIGURATION)



NOTES A:
#1) VACUUM HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 25 FT.)
#2) RECOVERY HOSES MUST BE APPROXIMATELY EQUAL LENGTHS. (I.E. 2 @ 15 FT.)
#3) FOR OPTIMAL HEAVY DUST REMOVAL, ORDER TEFLON COATED FILTERS.
#4) AS FLUX BECOMES SLAG, NEW FLUX IS AUTOMATICALLY ADDED. NEW FLUX WILL STOP FEEDING WHEN IT REACHES BOTTOM OF FF-3 PIPE.
#5) *200 LBS. CAPACITY. OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPERS, AND DUAL INLETS AND/OR OUTLETS AVAILABLE)

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIA.	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE C: – PALLET:

CUSTOMER PROVIDES A PALLET FOR EASY DUST DRUM REMOVAL.

MIGHTY-MAC VACUUM SELECTION:

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 60 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
2@ FH-100-E/P OR (HEATED) HFH-100-E/P (HOPPER/SEPARATOR. SEE NOTE A#5)
2@ FF-3 (FLUX FEED PIPE)
1@ PT-100 OR (HEATED) HPT-100 (FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
2@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ VL-3000 (VACUUM SHUT-OFF VALVE)
2@ STANDARD NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ FCV-3000 (FLUX CONTROL VALVE)
2@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" DISPENSING HOSE (TYPICAL IS 5 FT. LONG)
2@ 1 1/2" RECOVERY HOSE (SEE IMPORTANT NOTE #2)
2@ 2" VACUUM HOSE (SEE IMPORTANT NOTE #1)

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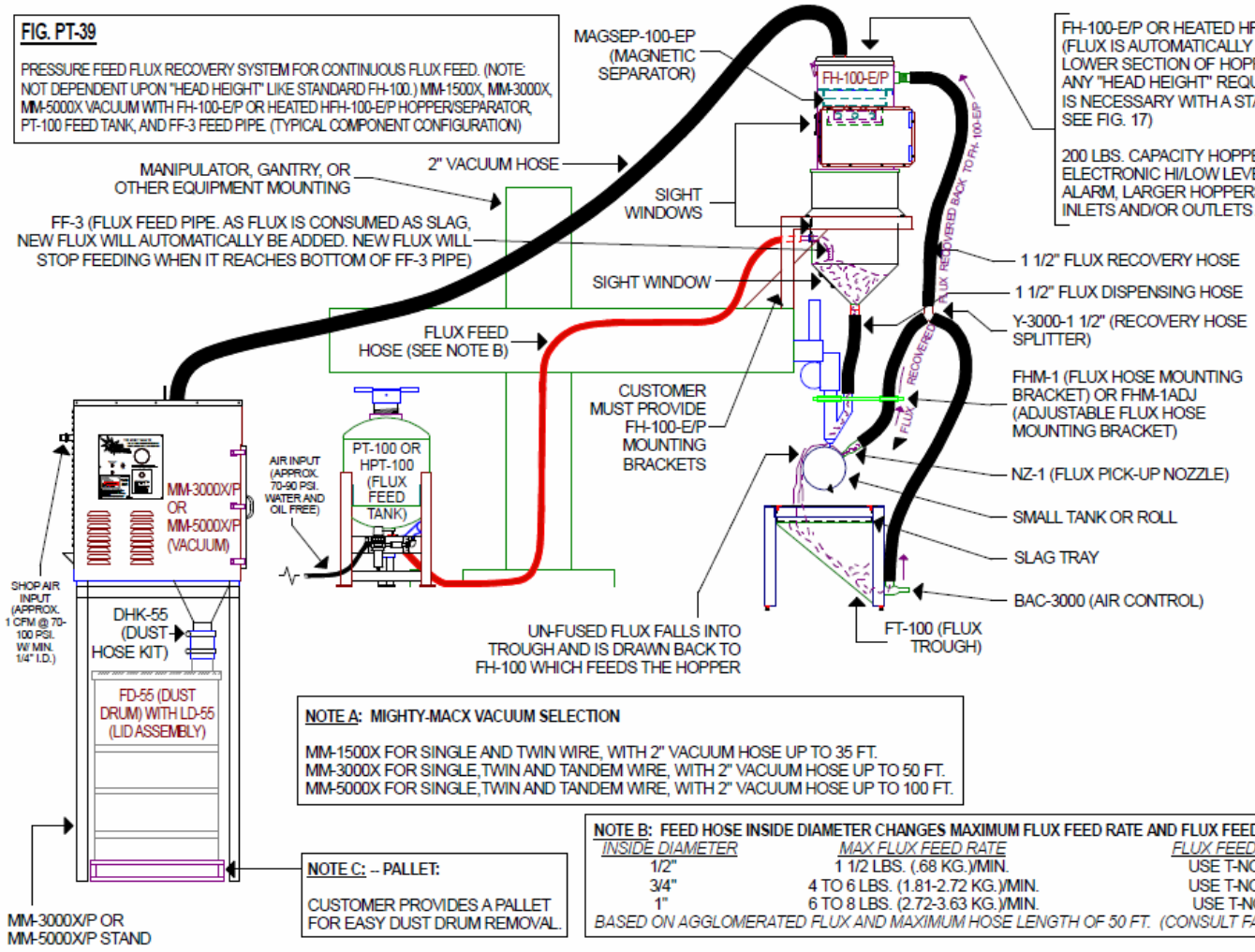
FIGURE PT-39

FIG. PT-39

PRESSURE FEED FLUX RECOVERY SYSTEM FOR CONTINUOUS FLUX FEED. (NOTE: NOT DEPENDENT UPON "HEAD HEIGHT" LIKE STANDARD FH-100.) MM-1500X, MM-3000X, MM-5000X VACUUM WITH FH-100-E/P OR HEATED HFH-100-E/P HOPPER/SEPARATOR, PT-100 FEED TANK, AND FF-3 FEED PIPE. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220,380-415,460,575 VOLTS/3PH/50 OR 60 HZ.)
1@ FF-3 (FLUX FEED PIPE)
1@ PT-100 OR (HEATED) HPT-100 (FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
1@ FH-100 OR HEATED HFH-100 (HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100-EP (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 5 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE C: -- PALLET:

CUSTOMER PROVIDES A PALLET FOR EASY DUST DRUM REMOVAL.

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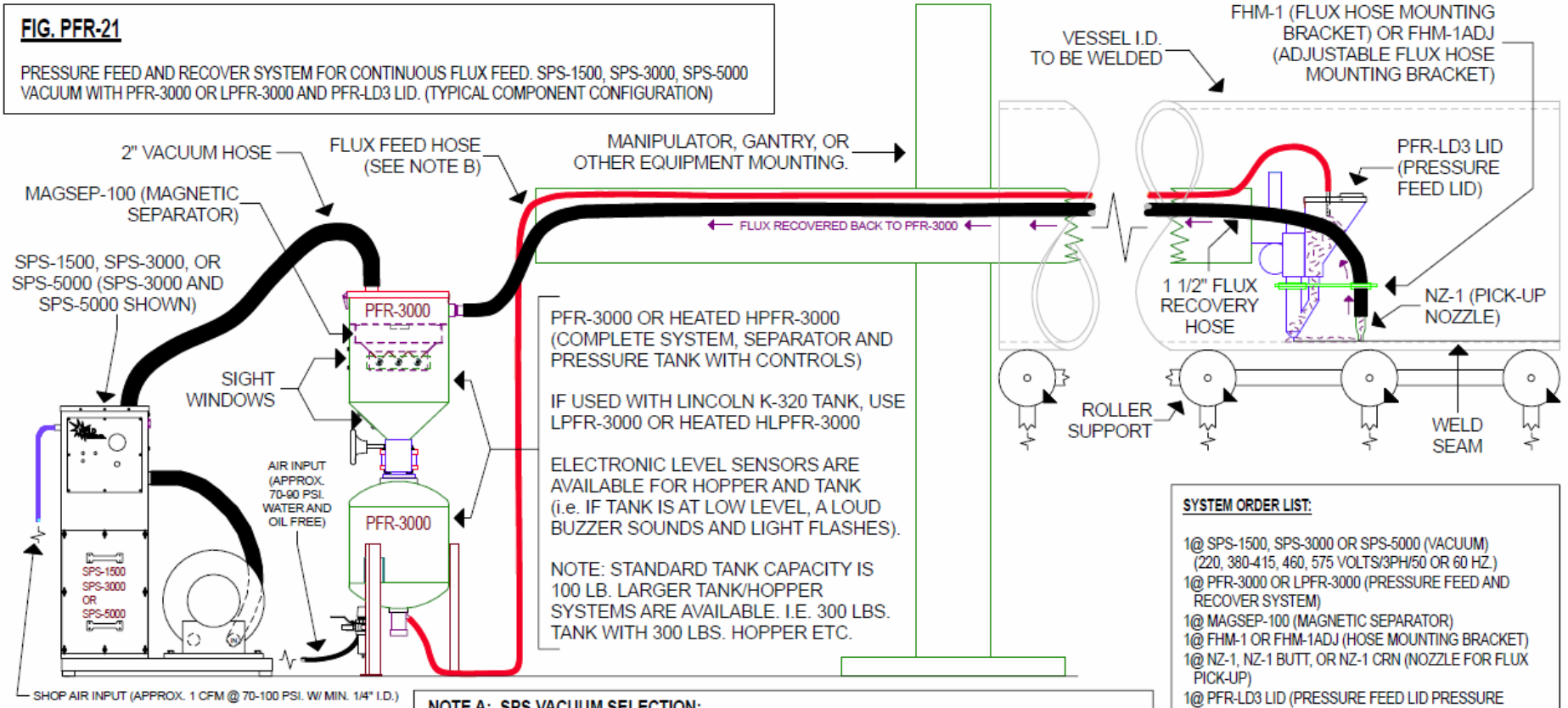
FIGURE PFR-21

FIG. PFR-21

PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. SPS-1500, SPS-3000, SPS-5000 VACUUM WITH PFR-3000 OR LPFR-3000 AND PFR-LD3 LID. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ SPS-1500, SPS-3000 OR SPS-5000 (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ PFR-3000 OR LPFR-3000 (PRESSURE FEED AND RECOVER SYSTEM)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ PFR-LD3 LID (PRESSURE FEED LID PRESSURE FEEDS FLUX TO HOPPER)
1@ PRESSURE FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ T-NOZ-3/4" OR T-NOZ-1" IF USING LINCOLN K-320 TANK
1@ ELECTRONIC LEVEL SENSORS (SEE NOTES)
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (SEE NOTE A)

HEAVY DUST REMOVAL:

FOR HEAVY DUST REMOVAL, USE MM-1500X/P, MM-3000X/P, OR MM-5000X/P

NOTE A: SPS VACUUM SELECTION:

SPS-1500 FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
SPS-3000 FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
SPS-5000 FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE:

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

BULLETIN: (PAGE 21) TB-MM708
FILE: 21-PFR~ PFR3000 SPS TB-DRT 7-25-2008.CAD
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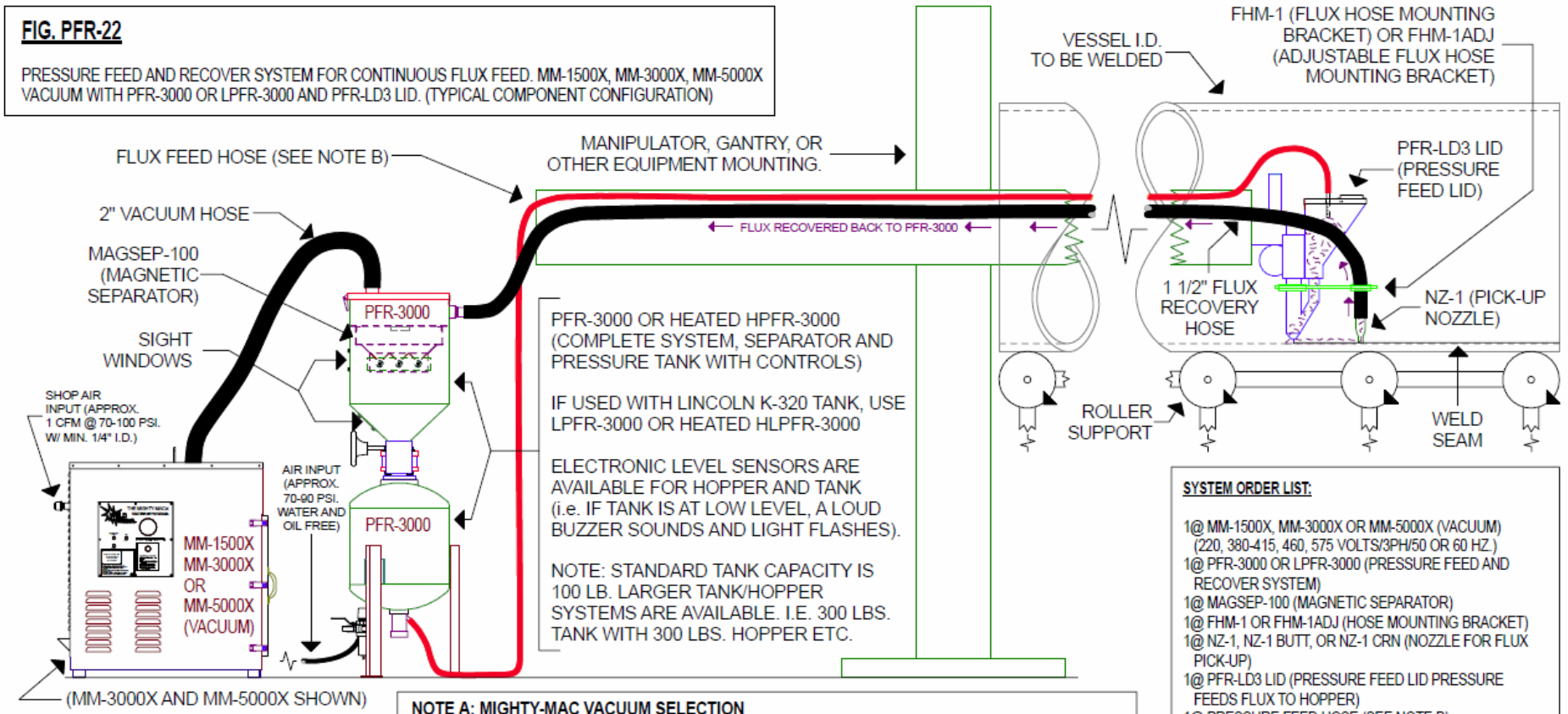
FIGURE PFR-22

FIG. PFR-22

PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. MM-1500X, MM-3000X, MM-5000X VACUUM WITH PFR-3000 OR LPFR-3000 AND PFR-LD3 LID. (TYPICAL COMPONENT CONFIGURATION)



HEAVY DUST REMOVAL:

FOR HEAVY DUST REMOVAL, USE MM-1500X/P, MM-3000X/P, OR MM-5000X/P

NOTE A: MIGHTY-MAC VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ PFR-3000 OR LPFR-3000 (PRESSURE FEED AND RECOVER SYSTEM)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ PFR-LD3 LID (PRESSURE FEED LID PRESSURE FEEDS FLUX TO HOPPER)
1@ PRESSURE FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ T-NOZ-3/4" OR T-NOZ-1" IF USING LINCOLN K-320 TANK
1@ ELECTRONIC LEVEL SENSORS (SEE NOTES)
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (SEE NOTE A)

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

BULLETIN: (PAGE 22) TB-MM708
FILE: 22-PFR~ PFR3000 MM-X TB-DRT 7-15-2008.CAD
REVISED: PFRSYS.DWG (6-15-1994 TB-MM294)
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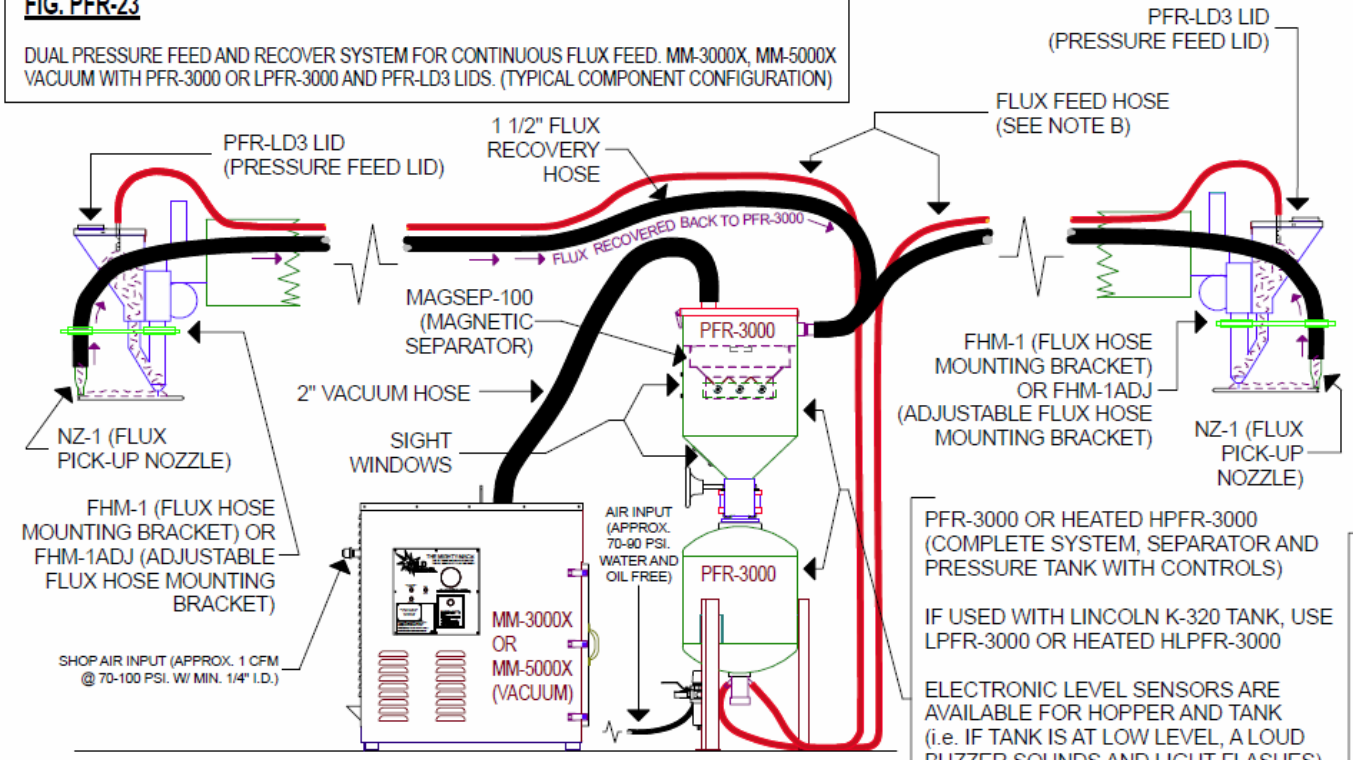
FIGURE PFR-23

FIG. PFR-23

DUAL PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. MM-3000X, MM-5000X VACUUM WITH PFR-3000 OR LPFR-3000 AND PFR-LD3 LIDS. (TYPICAL COMPONENT CONFIGURATION)



PFR-3000 OR HEATED HPFR-3000 (COMPLETE SYSTEM, SEPARATOR AND PRESSURE TANK WITH CONTROLS)

IF USED WITH LINCOLN K-320 TANK, USE LPFR-3000 OR HEATED HLPFR-3000

ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR HOPPER AND TANK (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).

NOTE: STANDARD TANK CAPACITY IS 100 LBS. LARGER TANK/HOPPER SYSTEMS ALSO AVAILABLE. I.E. 300 LBS. TANK WITH 300 LBS. HOPPER ETC.

HEAVY DUST REMOVAL:

FOR HEAVY DUST REMOVAL, USE MM-1500X/P, MM-3000X/P, OR MM-5000X/P.

NOTE A: MIGHTY-MAC VACUUM SELECTION

USE MM-3000X FOR...
A) 50/60 HZ. POWER INSTALLATIONS
B) SINGLE WIRE WELDING ON EACH HEAD
C) MAXIMUM 2" VACUUM HOSE PER HEAD IS 30 FT.
D) MAXIMUM 1 1/2" RECOVERY HOSE PER HEAD IS 25 FT.

USE MM-5000X FOR...
A) 50 HZ. POWER INSTALLATIONS WITH 2" VACUUM HOSE MAXIMUM OF 30 FT. PER HEAD
B) 60 HZ. WITH 2" VACUUM HOSE OVER 50 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
C) 1 1/2" RECOVERY HOSE OVER 25 FT. PER HEAD (CONSULT FACTORY FOR MAXIMUM LENGTH)
D) TWIN ARC WELDING EACH HEAD (NOT TANDEM)

NOTE:
1) DUAL SYSTEM NOT RECOMMENDED FOR TANDEM OR TRIPLE HEADS. USE ONE MM-3000X OR MM-5000X PER TANDEM APPLICATION.
2) MM-1500X NOT RECOMMENDED FOR DUAL STATION.

SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ PFR-3000 OR LPFR-3000 (PRESSURE FEED AND RECOVER SYSTEM)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
2@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
2@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ PFR-LD3 LID (PRESSURE FEED LID PRESSURE FEEDS FLUX TO HOPPER)
2@ PRESSURE FEED HOSE (SEE NOTE B) (3/4" I.D. RECOmMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ T-NOZ-3/4" OR T-NOZ-1" IF USING LINCOLN K-320 TANK
1@ ELECTRONIC LEVEL SENSORS (SEE NOTES)
2@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (SEE NOTE A)

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

BULLETIN: (PAGE 23) TB-MM708
FILE: 23-PFR~ 2 PFR3000 TB-DRT 8-1-2008.CAD
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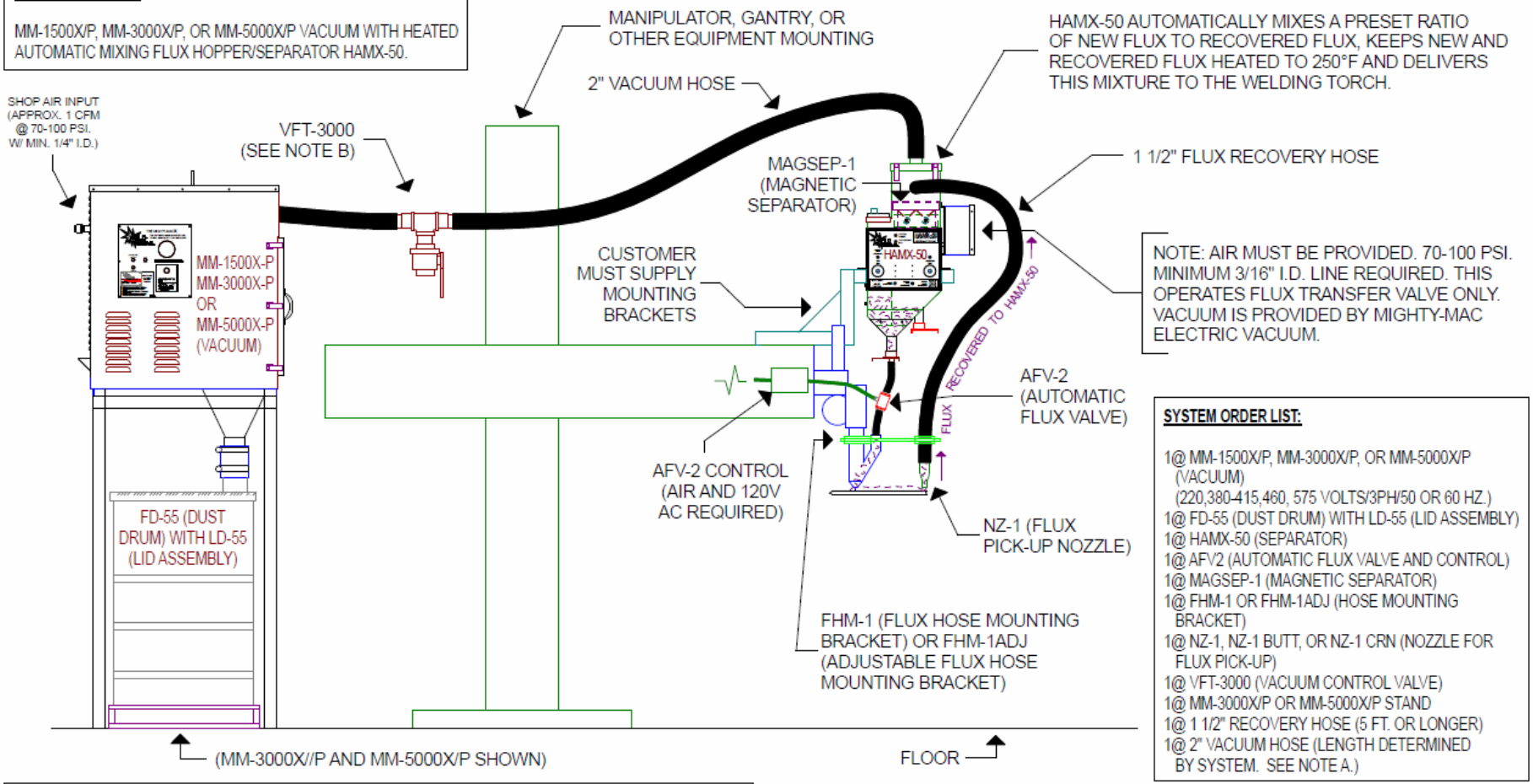
FIGURE HAMX-24A

FIG. HAMX-24A

MM-1500X/P, MM-3000X/P, OR MM-5000X/P VACUUM WITH HEATED AUTOMATIC MIXING FLUX HOPPER/SEPARATOR HAMX-50.



SYSTEM ORDER LIST:

1@ MM-1500X/P, MM-3000X/P, OR MM-5000X/P (VACUUM)
(220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ HAMX-50 (SEPARATOR)
1@ AFV2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ VFT-3000 (VACUUM CONTROL VALVE)
1@ MM-3000X/P OR MM-5000X/P STAND
1@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A.)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, FLUX PARTICLE SIZE DRAW BACK IS ALSO REDUCED.

BULLETIN: (PAGE 24A) TB-MM708
FILE: 24A-HAMX~ HAMX-50 XP TB-DRT 8-1-2011.CAD
REVISED: MM15HMX.CAD (12-3-1996 TB-MM294)
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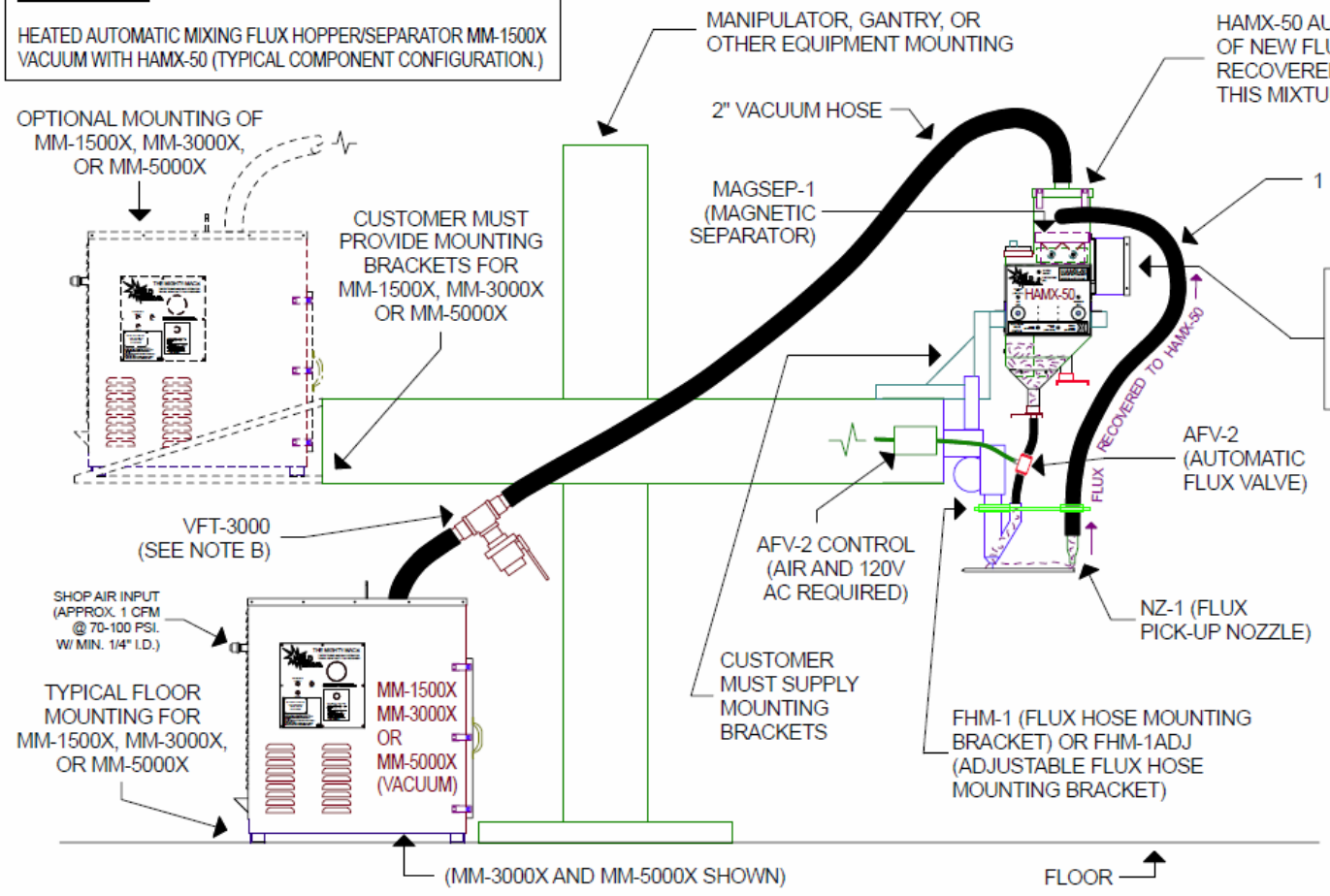
FIGURE HAMX-24

FIG. HAMX-24

HEATED AUTOMATIC MIXING FLUX HOPPER/SEPARATOR MM-1500X VACUUM WITH HAMX-50 (TYPICAL COMPONENT CONFIGURATION.)



SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X, OR MM-5000X (VACUUM) (220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ HAMX-50 (SEPARATOR)
1@ AFV2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ VFT-3000 (VACUUM CONTROL VALVE)
1@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A.)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, FLUX PARTICLE SIZE DRAW BACK IS ALSO REDUCED.

BULLETIN: (PAGE 24) TB-MM708
FILE: 24-HAMX~ HAMX-50 TB-DRT 7-18-2008.CAD
REVISED: MM15HMX.CAD (12-3-1996 TB-MM294)
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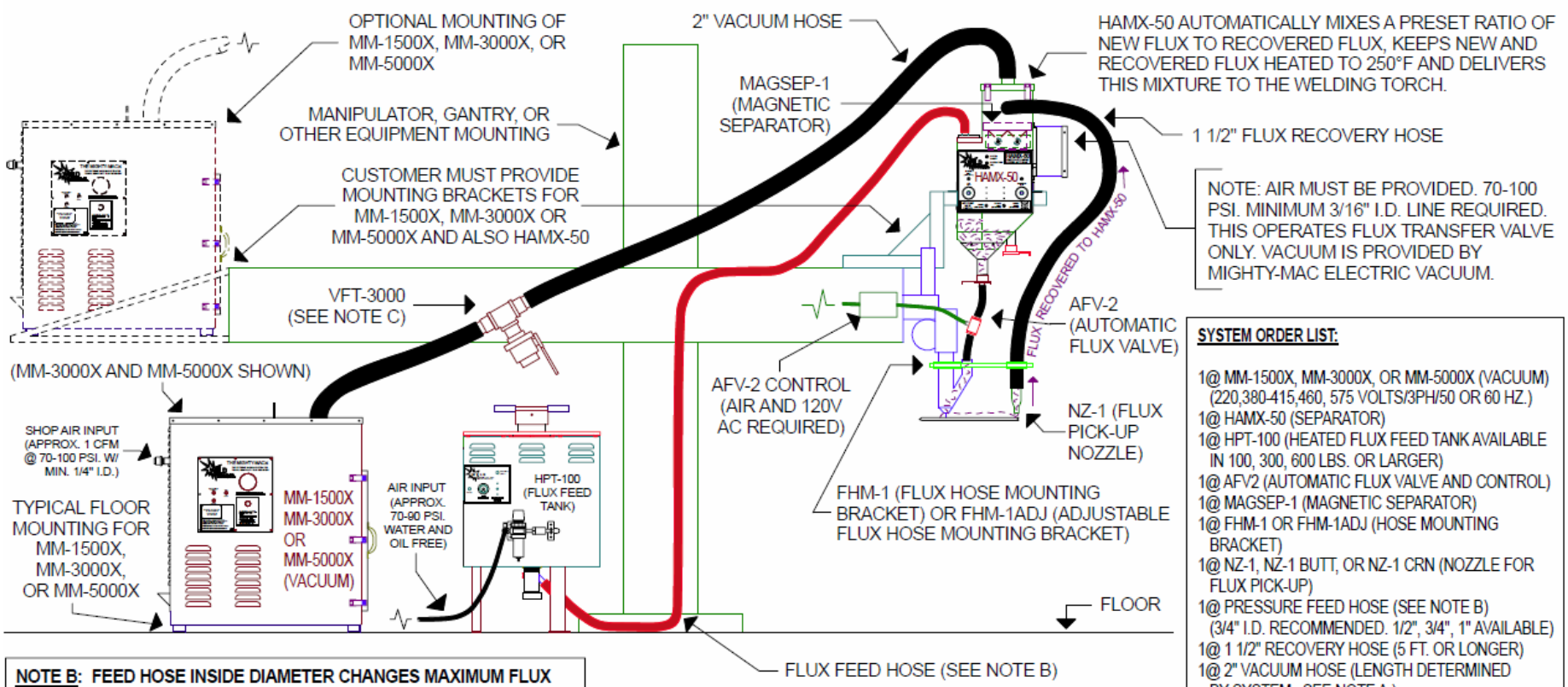
FIGURE HAMX-25

FIG. HAMX-25

HEATED AUTOMATIC MIXING FLUX HOPPER/SEPARATOR SYSTEM. MM-1500X, MM-3000X, OR MM-5000X VACUUM WITH HAMX-50 AND HPT-100 HEATED FEED TANK. (TYPICAL COMPONENT CONFIGURATION)

NOTE A: MIGHTY-MACX VACUUM SELECTION
MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.



SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X, OR MM-5000X (VACUUM) (220,380-415,460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ HAMX-50 (SEPARATOR)
1@ HPT-100 (HEATED FLUX FEED TANK AVAILABLE IN 100, 300, 600 LBS. OR LARGER)
1@ AFV2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ PRESSURE FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ 1 1/2" RECOVERY HOSE (5 FT. OR LONGER)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A.)

NOTE B: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE

INSIDE DIA.	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE C: VFT-3000

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, FLUX PARTICLE SIZE DRAW BACK IS ALSO REDUCED.

BULLETIN: (PAGE 25) TB-MM708
FILE: 25-HAMX~ HAMX-50 PT-X00 TB-DRT 7-18-2008.CAD
REVISED: HAM 50 w PRESSURE FEED.CAD (12-3-1996 TB-MM294)
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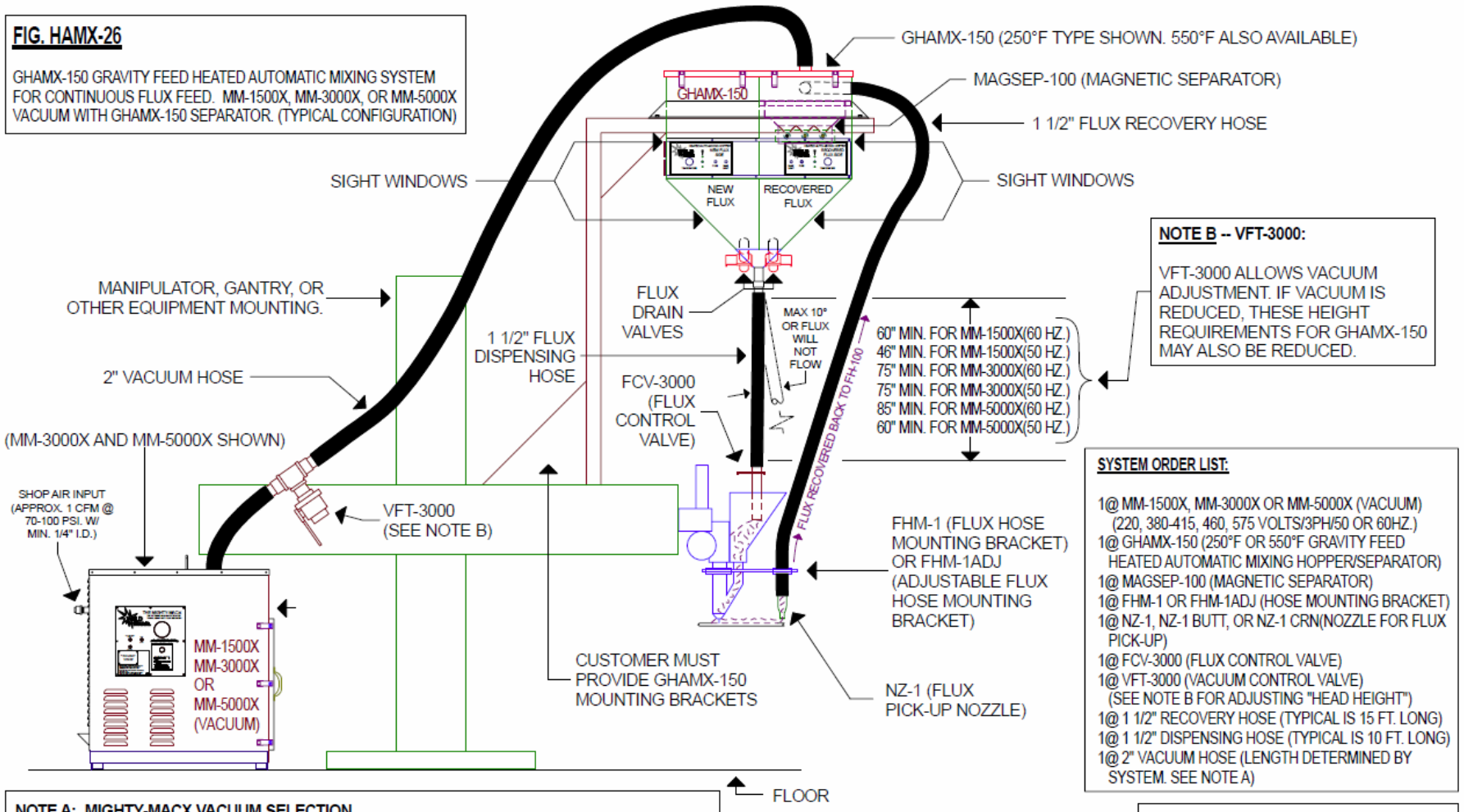
FIGURE HAMX-26

FIG. HAMX-26

GHAMX-150 GRAVITY FEED HEATED AUTOMATIC MIXING SYSTEM FOR CONTINUOUS FLUX FEED. MM-1500X, MM-3000X, OR MM-5000X VACUUM WITH GHAMX-150 SEPARATOR. (TYPICAL CONFIGURATION)



NOTE B -- VFT-3000:

VFT-3000 ALLOWS VACUUM ADJUSTMENT. IF VACUUM IS REDUCED, THESE HEIGHT REQUIREMENTS FOR GHAMX-150 MAY ALSO BE REDUCED.

SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60HZ.)
1@ GHAMX-150 (250°F OR 550°F GRAVITY FEED HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN(NOZZLE FOR FLUX PICK-UP)
1@ FCV-3000 (FLUX CONTROL VALVE)
1@ VFT-3000 (VACUUM CONTROL VALVE) (SEE NOTE B FOR ADJUSTING "HEAD HEIGHT")
1@ 1 1/2" RECOVERY HOSE (TYPICAL IS 15 FT. LONG)
1@ 1 1/2" DISPENSING HOSE (TYPICAL IS 10 FT. LONG)
1@ 2" VACUUM HOSE (LENGTH DETERMINED BY SYSTEM. SEE NOTE A)

NOTE A: MIGHTY-MACX VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

BULLETIN: (PAGE 26) TB-MM708
FILE: 26-HAMX~ GHAMX-150 TB-DRT 7-22-2008.CAD
REVISED: MMGHAMX.CAD (12-3-1996 TB-MM294)
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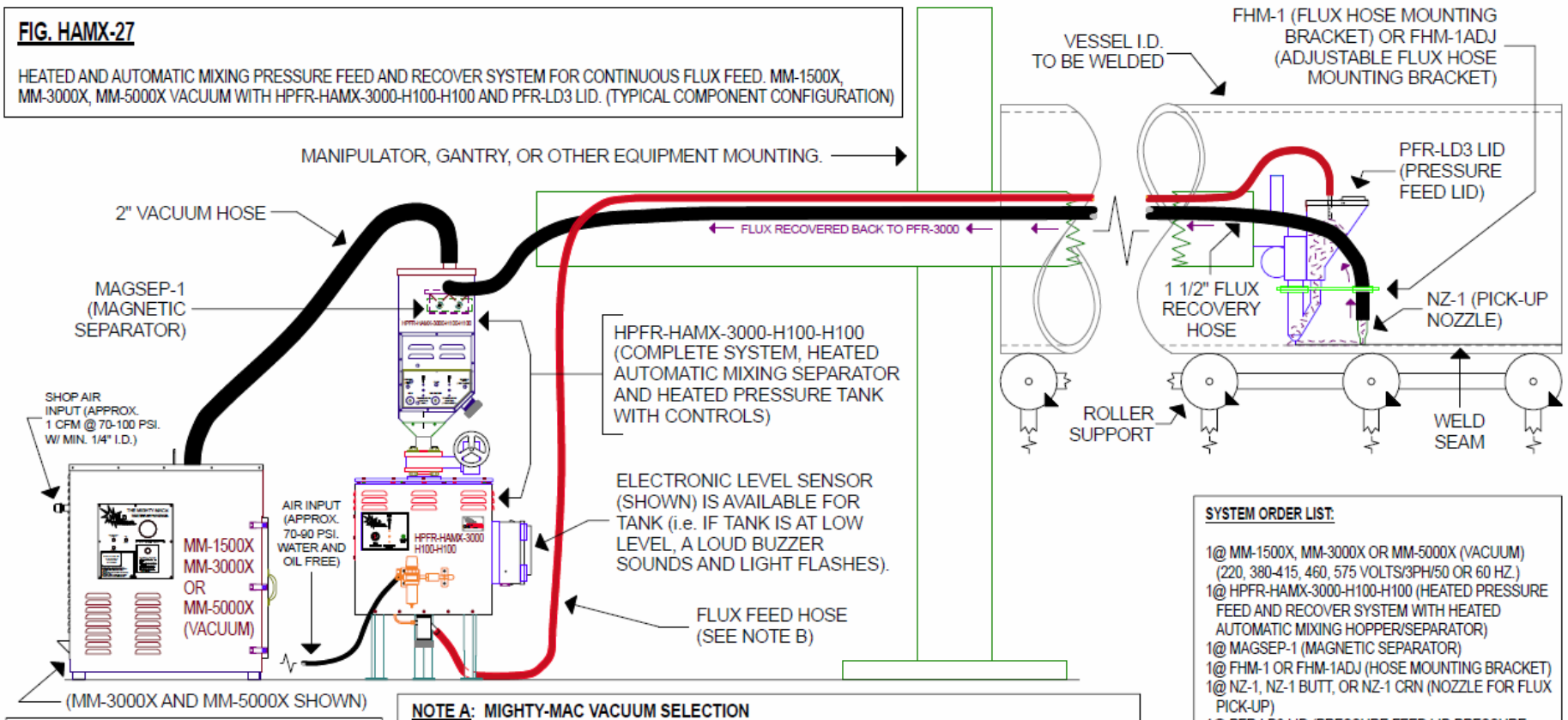
FIGURE HAMX-27

FIG. HAMX-27

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. MM-1500X, MM-3000X, MM-5000X VACUUM WITH HPFR-HAMX-3000-H100-H100 AND PFR-LD3 LID. (TYPICAL COMPONENT CONFIGURATION)



HEAVY DUST REMOVAL:

FOR HEAVY DUST REMOVAL, USE MM-1500X/P, MM-3000X/P, OR MM-5000X/P

NOTE A: MIGHTY-MAC VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ HPFR-HAMX-3000-H100-H100 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ PFR-LD3 LID (PRESSURE FEED LID PRESSURE FEEDS FLUX TO HOPPER)
1@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTES)
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (SEE NOTE A)

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

BULLETIN: (PAGE 27) TB-MM708
FILE: 27-HAMX~ HPFR3000HAMXH100H100 TB-DRT 7-24-2008.CAD
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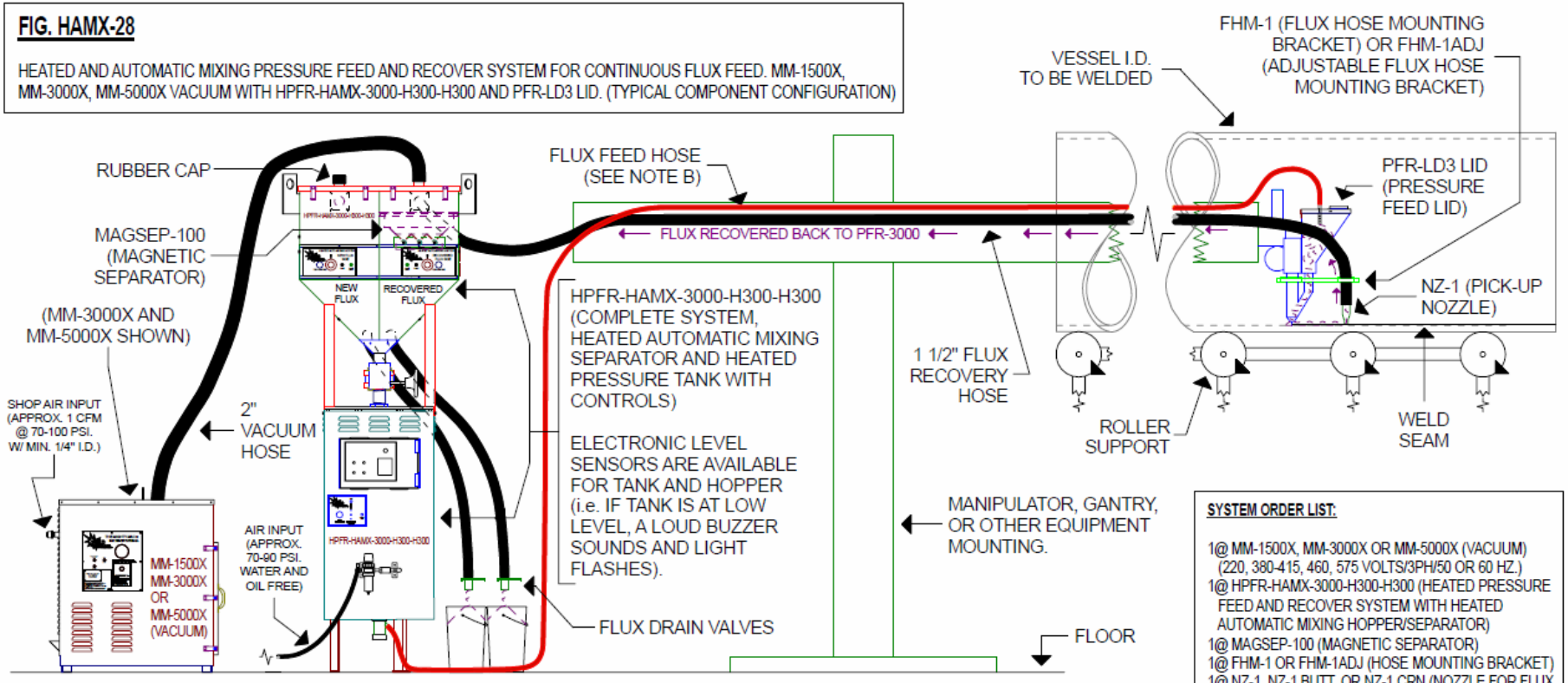
FIGURE HAMX-28

FIG. HAMX-28

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. MM-1500X, MM-3000X, MM-5000X VACUUM WITH HPFR-HAMX-3000-H300-H300 AND PFR-LD3 LID. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-1500X, MM-3000X OR MM-5000X (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ HPFR-HAMX-3000-H300-H300 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ PFR-LD3 LID (PRESSURE FEED LID PRESSURE FEEDS FLUX TO HOPPER)
1@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTES)
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (SEE NOTE A)

HEAVY DUST REMOVAL:

FOR HEAVY DUST REMOVAL, USE MM-1500X/P, MM-3000X/P, OR MM-5000X/P

NOTE A: MIGHTY-MAC VACUUM SELECTION

MM-1500X FOR SINGLE AND TWIN WIRE, WITH 2" VACUUM HOSE UP TO 35 FT.
MM-3000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE,TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

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FIGURE HAMX-29

FIG. HAMX-29: I.D. GIRTH WELD

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR I.D. GIRTH WELD. MM-3000X/P OR MM-5000X/P VACUUM WITH HPFR-HAMX-3000-H100-H100, AND FH-1-LD-3 OR HEATED HFH-1-LD-3. (TYPICAL COMPONENT CONFIGURATION)

NOTE A: HPFR-HAMX-3000-H100-H100

HPFR-HAMX-3000-H100-H100 IS A COMPLETE SYSTEM:
HEATED AUTOMATIC MIXING SEPARATOR AND HEATED PRESSURE TANK WITH CONTROLS
ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR TANK AND HOPPER (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).
HPFR-HAMX-3000-H100-H100 MOVES WITH THE WELDERS, NOT THE BOOM IN THIS CONFIGURATION.

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

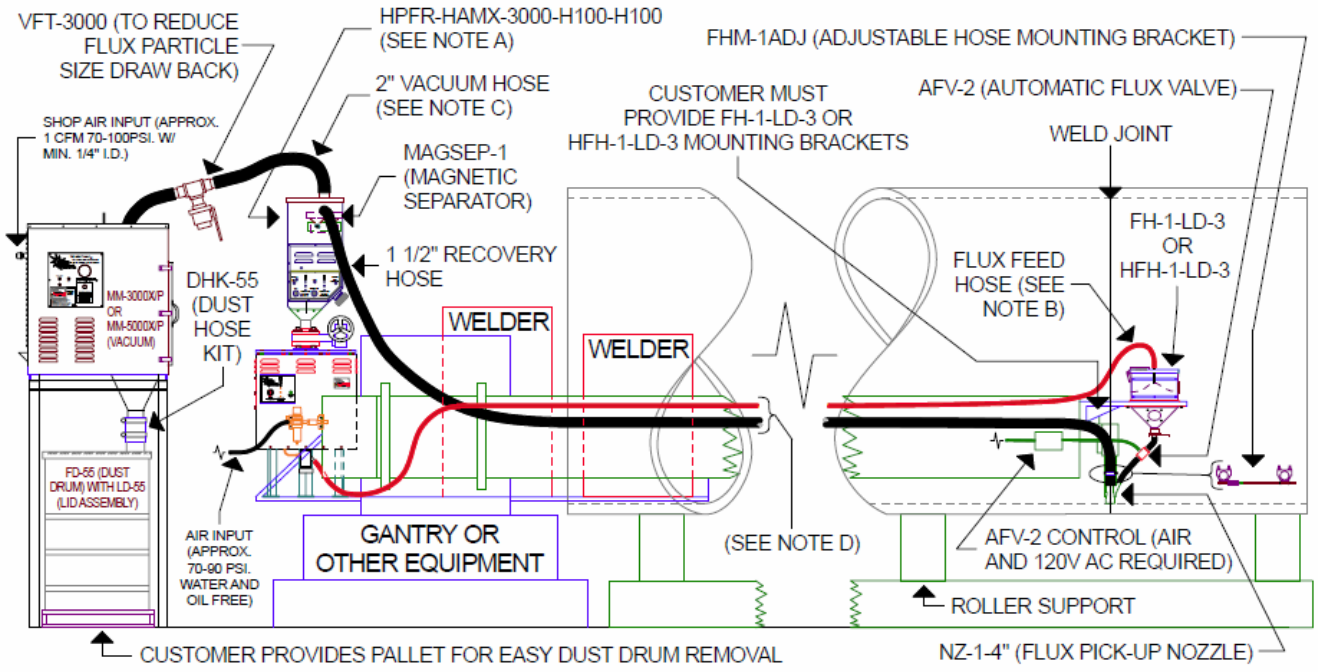
BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE C: MIGHTY-MAC VACUUM SELECTION

MM-3000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE D: CABLE TRACK

ALL HOSES MUST BE IN A SUITABLE CABLE TRACK WHICH DOES NOT REDUCE THE MINIMUM BEND RADIUS.



SYSTEM ORDER LIST:

1@ MM-3000X/P, OR MM-5000X/P (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ HPFR-HAMX-3000-H100-H100 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTE A)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FH-1-LD-3 OR (HEATED) HFH-1-LD-3 (40 LBS. HOPPER WITH PRESSURE FEED LID)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ FHM-1ADJ (ADJUSTABLE HOSE MOUNTING BRACKET)
1@ NZ-1-4" OR I.D. PIPE NOZZLE (SPECIFY DIAMETER) (NOZZLE FOR FLUX PICK-UP)
1@ VFT-3000 (VACUUM CONTROL VALVE)
1@ FLUX FEED HOSE (SEE NOTE B & D) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" RECOVERY HOSE (SEE NOTE D)
2@ 2" VACUUM HOSE (SEE NOTE C)

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FIGURE HAMX-30

FIG. HAMX-30: O.D. GIRTH WELD

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR O.D. GIRTH WELD. MM-3000X/P OR MM-5000X/P VACUUM WITH HPFR-HAMX-3000-H100-H100, AND FH-1-LD-3 OR HEATED HFH-1-LD-3. (TYPICAL COMPONENT CONFIGURATION)

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

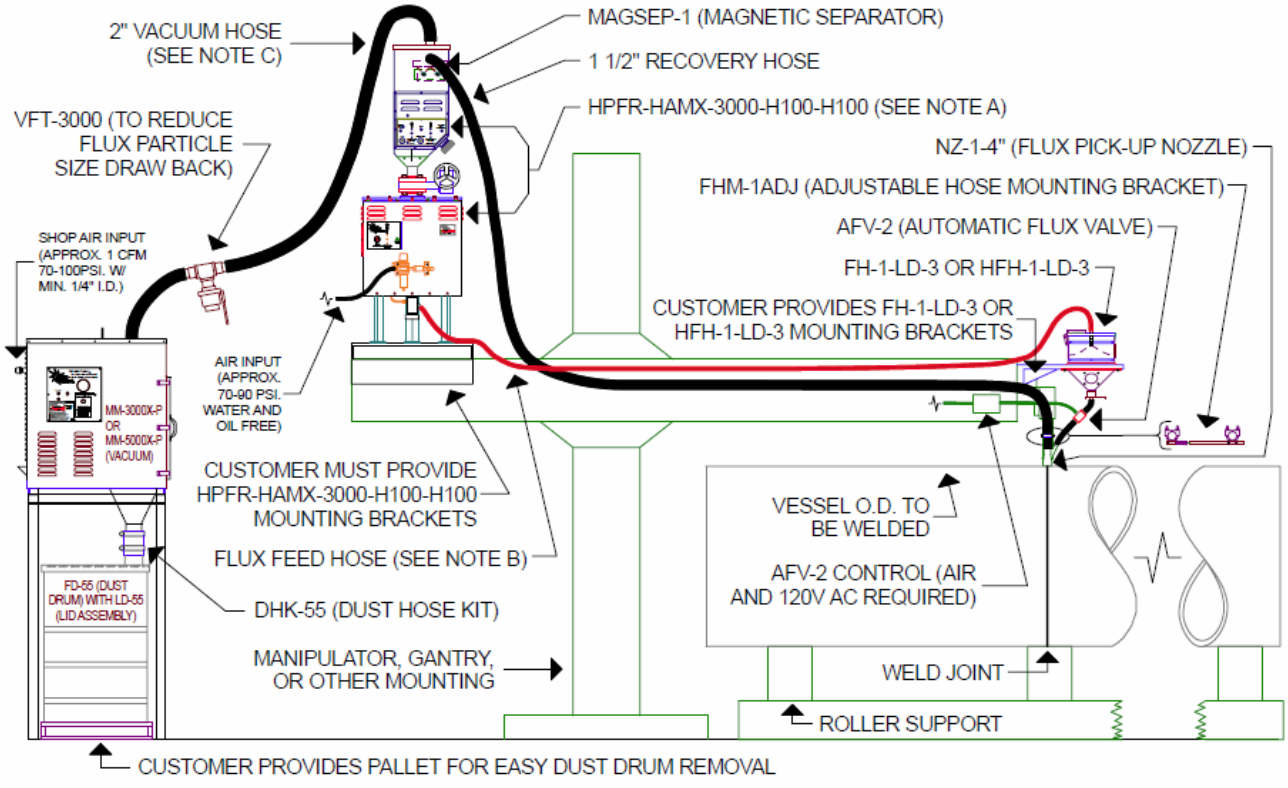
BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE A: HPFR-HAMX-3000-H100-H100

HPFR-HAMX-3000-H100-H100 IS A COMPLETE SYSTEM:
HEATED AUTOMATIC MIXING SEPARATOR AND HEATED PRESSURE TANK WITH CONTROLS
ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR TANK AND HOPPER (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).

NOTE C: VACUUM HOSE

MM-3000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.
MUST PROVIDE ENOUGH SLACK FOR THE MANIPULATOR TO EXPAND AND CONTRACT.



SYSTEM ORDER LIST:

1@ MM-3000X/P, OR MM-5000X/P (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ HPFR-HAMX-3000-H100-H100 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTE A)
1@ MAGSEP-1 (MAGNETIC SEPARATOR)
1@ FH-1-LD-3 OR (HEATED) HFH-1-LD (40LBS. HOPPER WITH PRESSURE FEED LID)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ FHM-1ADJ (ADJUSTABLE HOSE MOUNTING BRACKET)
1@ NZ-1-4" OR I.D. PIPE NOZZLE (SPECIFY DIAMETER) (NOZZLE FOR FLUX PICK-UP)
1@ VFT-3000 (VACUUM CONTROL VALVE)
1@ FLUX FEED HOSE (SEE NOTE B)
(3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" RECOVERY HOSE
2@ 2" VACUUM HOSE (SEE NOTE C)

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FIGURE HAMX-31

FIG. HAMX-31: I.D. GIRTH WELD

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR I.D. GIRTH WELD. MM-3000X OR MM-5000X VACUUM WITH HPFR-HAMX-3000-H300-H300, AND FH-1-LD-3 OR HFH-1-LD-3. (TYPICAL COMPONENT CONFIGURATION)

NOTE A: HPFR-HAMX-3000-H300-H300

HPFR-HAMX-3000-H300-H300 IS A COMPLETE SYSTEM:
HEATED AUTOMATIC MIXING SEPARATOR AND HEATED PRESSURE TANK WITH CONTROLS
ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR TANK AND HOPPER (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

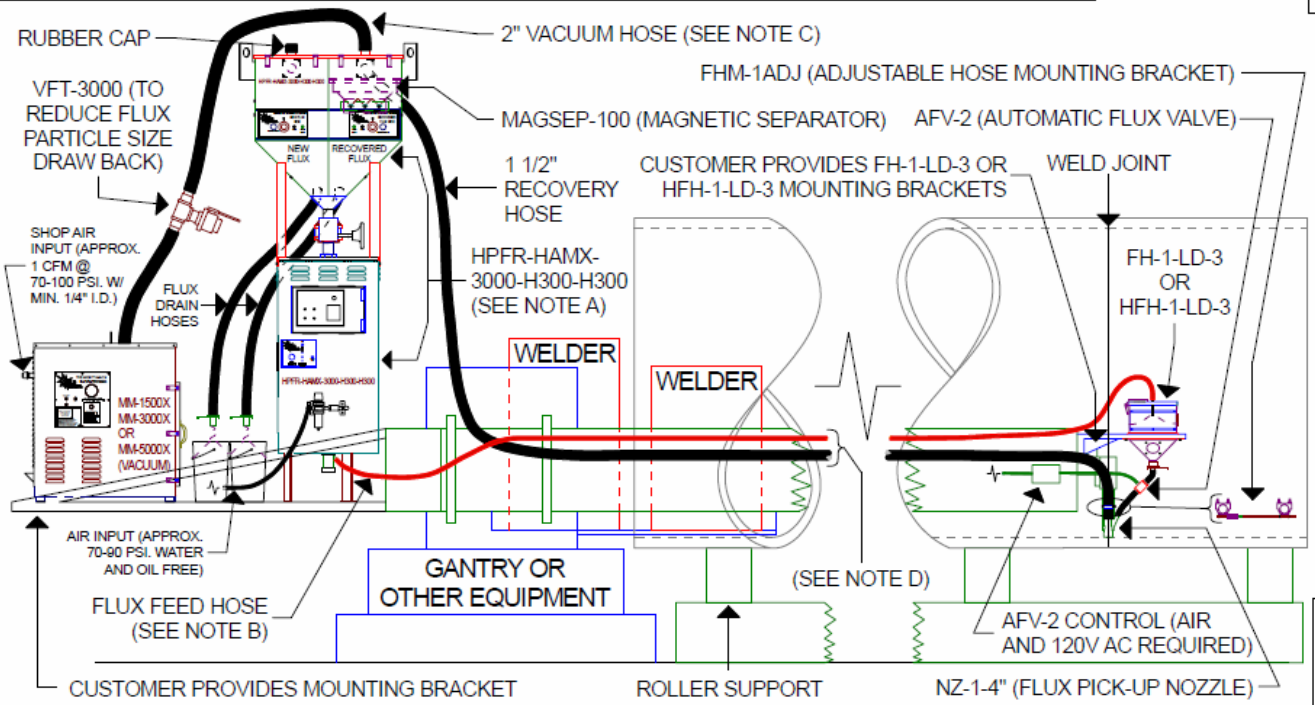
BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE C: MIGHTY-MAC VACUUM SELECTION

MM-3000X FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

NOTE D: CABLE TRACK

ALL HOSES MUST BE IN A SUITABLE CABLE TRACK WHICH DOES NOT REDUCE THE MINIMUM BEND RADIUS.



SYSTEM ORDER LIST:

1@ MM-3000X OR MM-5000X (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ HPFR-HAMX-3000-H300-H300 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTE A)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FH-1-LD-3 OR (HEATED) HFH-1-LD-3
(40 LBS. HOPPER WITH PRESSURE FEED LID)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ FHM-1ADJ (ADJUSTABLE HOSE MOUNTING BRACKET)
1@ NZ-1-4" OR I.D. PIPE NOZZLE (SPECIFY DIAMETER)
(NOZZLE FOR FLUX PICK-UP)
1@ VFT-3000 (VACUUM CONTROL VALVE)
1@ FLUX FEED HOSE (SEE NOTE B & D)
(3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" RECOVERY HOSE (SEE NOTE D)
2@ 2" VACUUM HOSE (SEE NOTE C)

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FIGURE HAMX-32

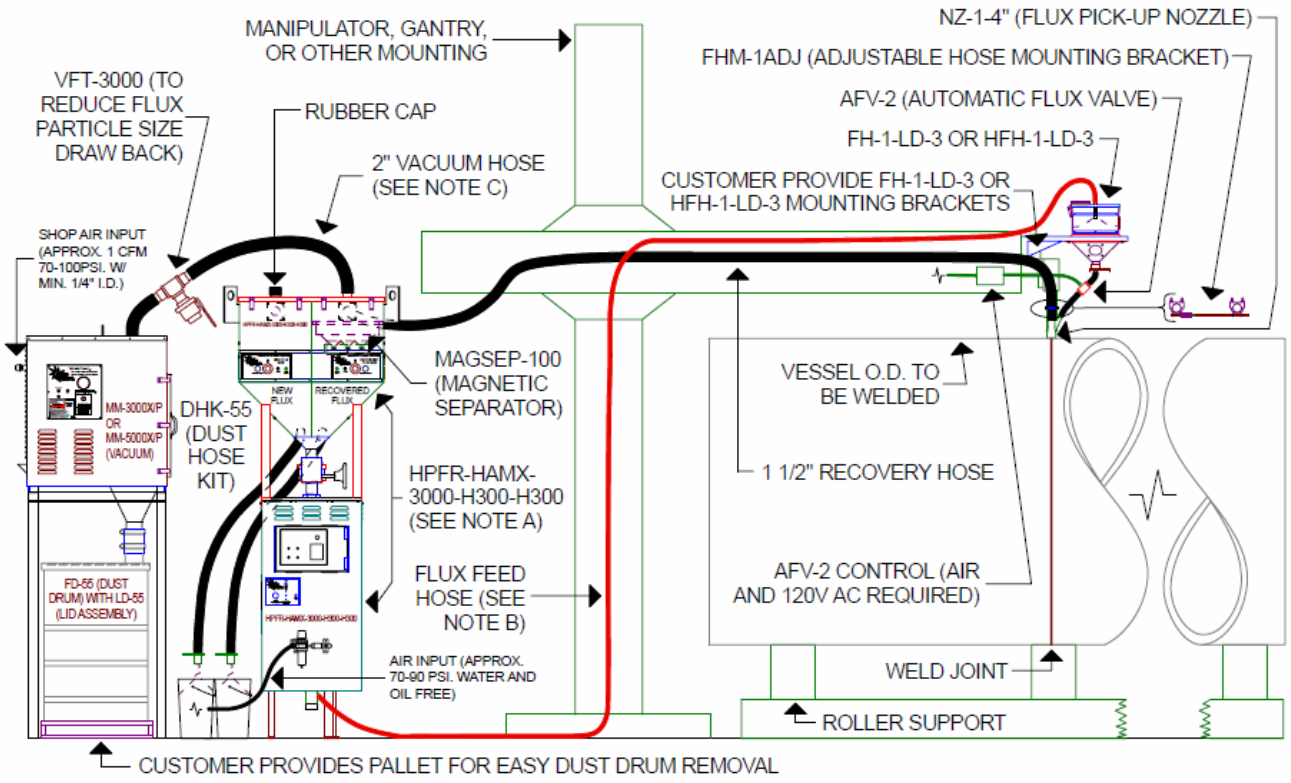
FIG. HAMX-32: O.D. GIRTH WELD

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR O.D. GIRTH WELD. MM-3000X OR MM-5000X VACUUM WITH HPFR-HAMX-3000-H150-H300, FH-1 OR HEATED HFH-1, AND LD-3 LID. (TYPICAL COMPONENT CONFIGURATION)

NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)



NOTE A: HPFR-HAMX-3000-H300-H300

HPFR-HAMX-3000-H300-H300 IS A COMPLETE SYSTEM:
HEATED AUTOMATIC MIXING SEPARATOR AND HEATED PRESSURE TANK WITH CONTROLS
ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR TANK AND HOPPER (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).

NOTE C: MIGHTY-MAC VACUUM SELECTION

MM-3000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50 FT.
MM-5000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100 FT.

SYSTEM ORDER LIST:

1@ MM-3000X/P, OR MM-5000X/P (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ HPFR-HAMX-3000-H300-H300 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTE A)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FH-1 OR (HEATED) HFH-1
(40 LBS. HOPPER WITH PRESSURE FEED LID)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ FHM-1ADJ (ADJUSTABLE HOSE MOUNTING BRACKET)
1@ NZ-1-4" OR I.D. PIPE NOZZLE (SPECIFY DIAMETER)
(NOZZLE FOR FLUX PICK-UP)
1@ VFT-3000 (VACUUM CONTROL VALVE)
1@ FLUX FEED HOSE (SEE NOTE B)
(3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" RECOVERY HOSE
2@ 2" VACUUM HOSE (SEE NOTE C)

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FIGURE HAMX-33

FIG. HAMX-33: HEATED AUTOMATIC RECOVERY SYSTEM

HEATED AND AUTOMATIC MIXING PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. MM-3000X/P OR MM-5000X/P VACUUM WITH FO-700HT-AB, HPFR-HAMX-3000-H300-H300, AND FH-1-LD-3 OR HEATED HFH-LD-3. (TYPICAL COMPONENT CONFIGURATION)

NOTE A: HPFR-HAMX-3000-H300-H300

HPFR-HAMX-3000-H300-H300 IS A COMPLETE SYSTEM:
- HEATED AUTOMATIC MIXING SEPARATOR AND HEATED PRESSURE TANK WITH CONTROLS

ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR
- TANK AND HOPPER (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).

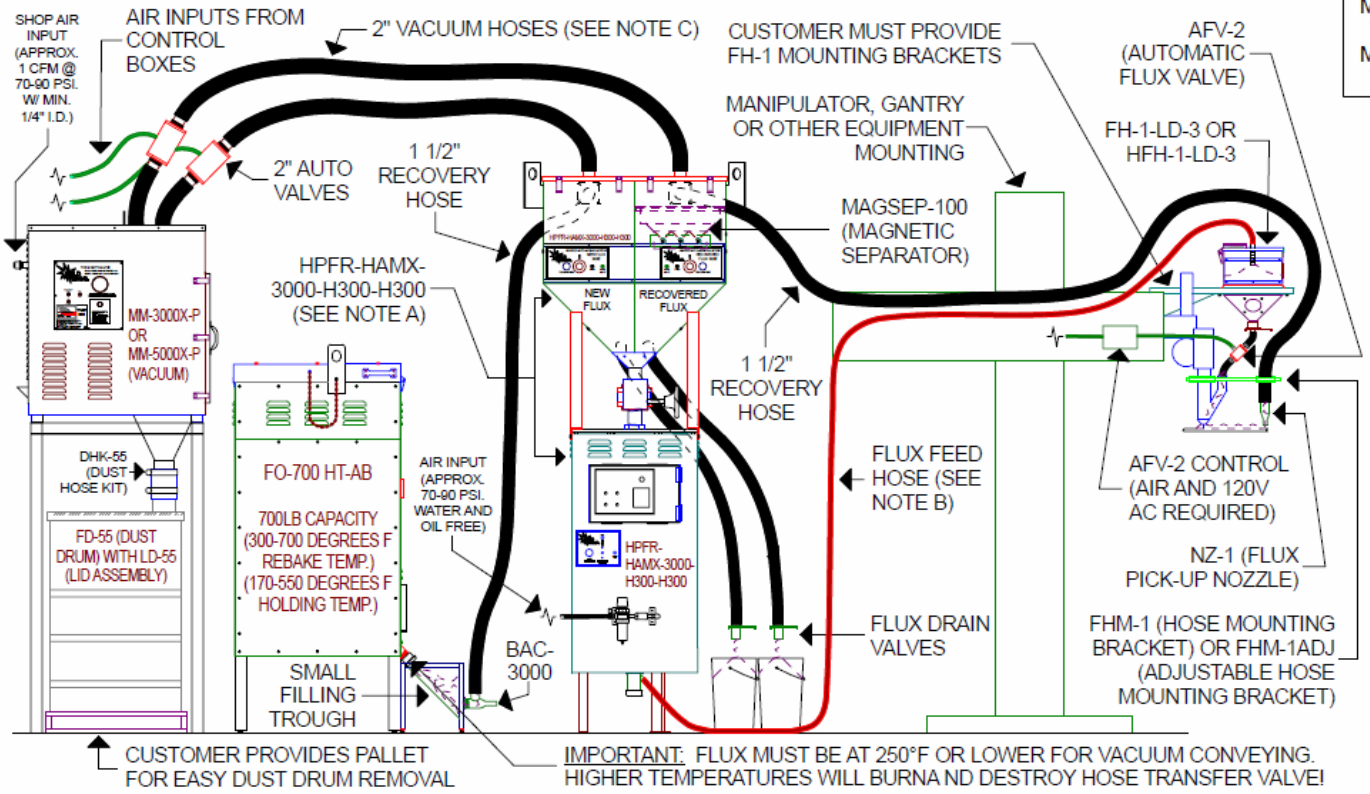
NOTE B: INSIDE DIAMETER OF THE FEED HOSE DETERMINES THE MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX. FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

NOTE C: MIGHTY-MAC VACUUM SELECTION

MM-3000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 50FT.
MM-5000X/P FOR SINGLE, TWIN AND TANDEM WIRE, WITH 2" VACUUM HOSE UP TO 100FT.



SYSTEM ORDER LIST:

1@ MM-3000X/P, OR MM-5000X/P (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ HPFR-HAMX-3000-H300-H300 (HEATED PRESSURE FEED AND RECOVER SYSTEM WITH HEATED AUTOMATIC MIXING HOPPER/SEPARATOR)
1@ ELECTRONIC LEVEL SENSOR (SEE NOTE A)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FO-700HT-AB (700LBS. HIGH TEMP. FLUX OVEN)
1@ SMALL FILLING TROUGH
1@ BAC-3000 (AIR CONTROL)
1@ FH-1-LD-3 OR (HEATED) HFH-1-LD-3 (40LBS. HOPPER WITH PRESSURE FEED LID)
1@ AFV-2 (AUTOMATIC FLUX VALVE AND CONTROL)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
2@ 2" AUTO VALVES
1@ FLUX FEED HOSE (SEE NOTE B) (3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
2@ 1 1/2" RECOVERY HOSE
2@ 2" VACUUM HOSE (SEE NOTE C)

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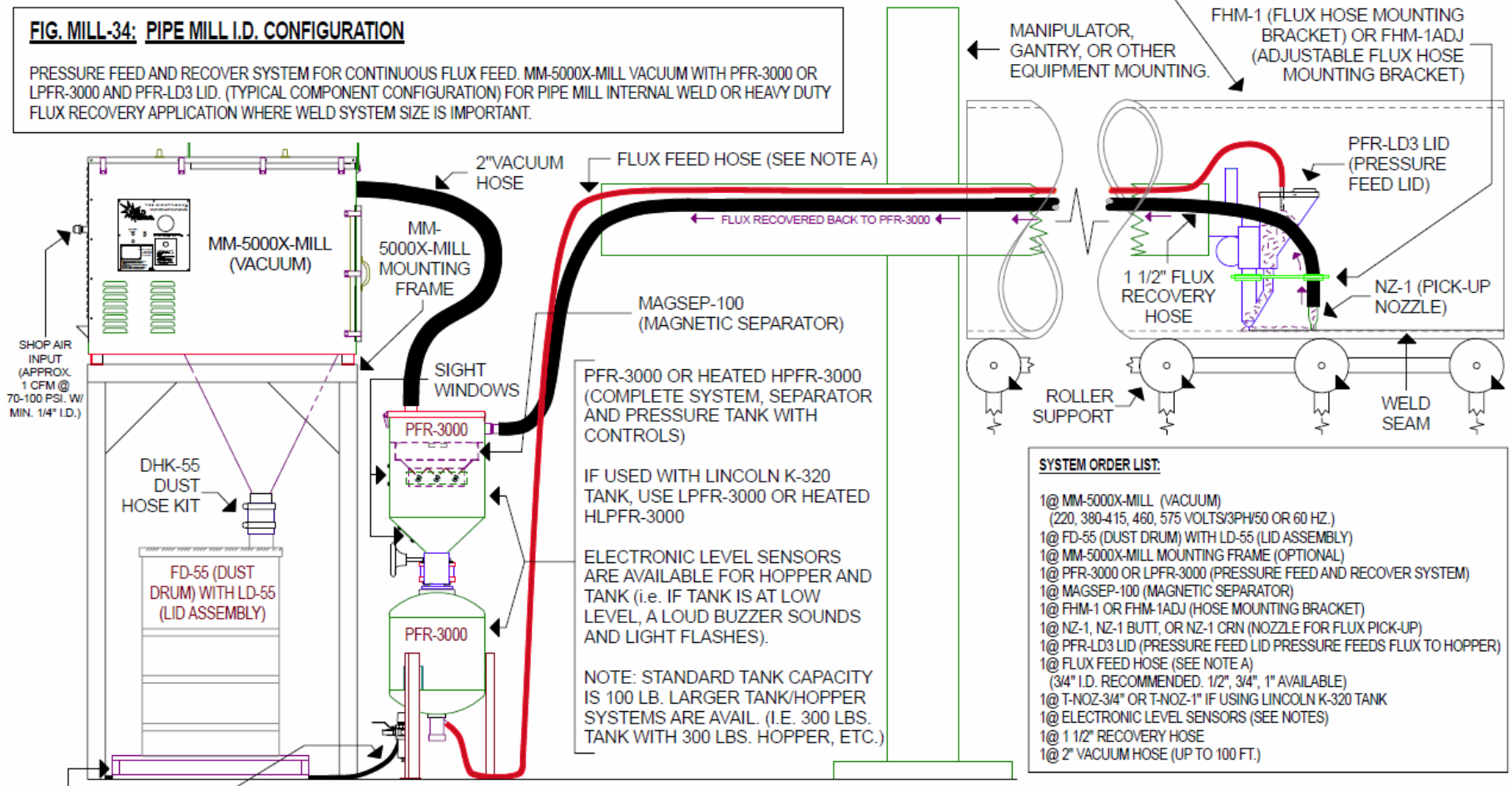
FIGURE MILL-34

FIG. MILL-34: PIPE MILL I.D. CONFIGURATION

PRESSURE FEED AND RECOVER SYSTEM FOR CONTINUOUS FLUX FEED. MM-5000X-MILL VACUUM WITH PFR-3000 OR LPFR-3000 AND PFR-LD3 LID. (TYPICAL COMPONENT CONFIGURATION) FOR PIPE MILL INTERNAL WELD OR HEAVY DUTY FLUX RECOVERY APPLICATION WHERE WELD SYSTEM SIZE IS IMPORTANT.



PFR-3000 OR HEATED HPFR-3000 (COMPLETE SYSTEM, SEPARATOR AND PRESSURE TANK WITH CONTROLS)

IF USED WITH LINCOLN K-320 TANK, USE LPFR-3000 OR HEATED HLPFR-3000

ELECTRONIC LEVEL SENSORS ARE AVAILABLE FOR HOPPER AND TANK (i.e. IF TANK IS AT LOW LEVEL, A LOUD BUZZER SOUNDS AND LIGHT FLASHES).

NOTE: STANDARD TANK CAPACITY IS 100 LB. LARGER TANK/HOPPER SYSTEMS ARE AVAIL. (I.E. 300 LBS. TANK WITH 300 LBS. HOPPER, ETC.)

SYSTEM ORDER LIST:

1@ MM-5000X-MILL (VACUUM)
(220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSEMBLY)
1@ MM-5000X-MILL MOUNTING FRAME (OPTIONAL)
1@ PFR-3000 OR LPFR-3000 (PRESSURE FEED AND RECOVER SYSTEM)
1@ MAGSEP-100 (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ NZ-1, NZ-1 BUTT, OR NZ-1 CRN (NOZZLE FOR FLUX PICK-UP)
1@ PFR-LD3 LID (PRESSURE FEED LID PRESSURE FEEDS FLUX TO HOPPER)
1@ FLUX FEED HOSE (SEE NOTE A)
(3/4" I.D. RECOMMENDED. 1/2", 3/4", 1" AVAILABLE)
1@ T-NOZ-3/4" OR T-NOZ-1" IF USING LINCOLN K-320 TANK
1@ ELECTRONIC LEVEL SENSORS (SEE NOTES)
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (UP TO 100 FT.)

NOTE A: FEED HOSE INSIDE DIAMETER DETERMINES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	MAX FEED RATE	FLUX FEED NOZZLE
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAX. HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

BULLETIN: (PAGE 34) TB-MM708
FILE: 34-MILL~ PFR3000 MILL TB-DRT 7-17-2008.CAD
REVISED: PFRMILL1.CAD (12-3-1996 TB-MM294)
WELD ENGINEERING CO., INC.
DRT 9-9-2008

WELD ENGINEERING CO., INC.
EXCELLENCE SINCE 1979

"MANUFACTURERS OF THE MOST COMPLETE LINE OF FLUX HANDLING EQUIPMENT IN THE WORLD"

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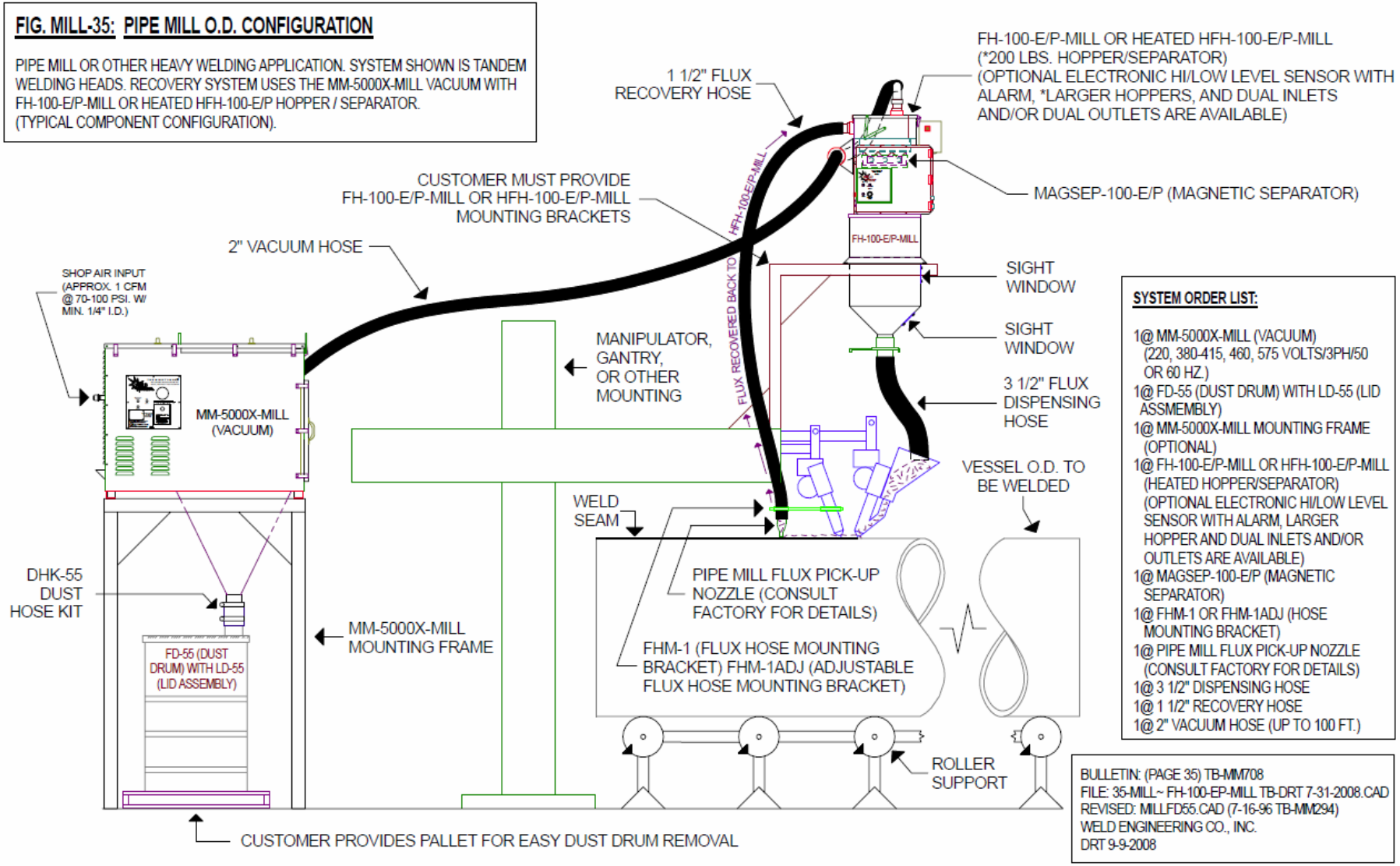
FIGURE MILL-35

FIG. MILL-35: PIPE MILL O.D. CONFIGURATION

PIPE MILL OR OTHER HEAVY WELDING APPLICATION. SYSTEM SHOWN IS TANDEM WELDING HEADS. RECOVERY SYSTEM USES THE MM-5000X-MILL VACUUM WITH FH-100-E/P-MILL OR HEATED HFH-100-E/P HOPPER / SEPARATOR. (TYPICAL COMPONENT CONFIGURATION).



SYSTEM ORDER LIST:

1@ MM-5000X-MILL (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSMEMBLY)
1@ MM-5000X-MILL MOUNTING FRAME (OPTIONAL)
1@ FH-100-E/P-MILL OR HFH-100-E/P-MILL (HEATED HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DUAL INLETS AND/OR OUTLETS ARE AVAILABLE)
1@ MAGSEP-100-E/P (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ PIPE MILL FLUX PICK-UP NOZZLE (CONSULT FACTORY FOR DETAILS)
1@ 3 1/2" DISPENSING HOSE
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (UP TO 100 FT.)

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FILE: 35-MILL~ FH-100-EP-MILL TB-DRT 7-31-2008.CAD
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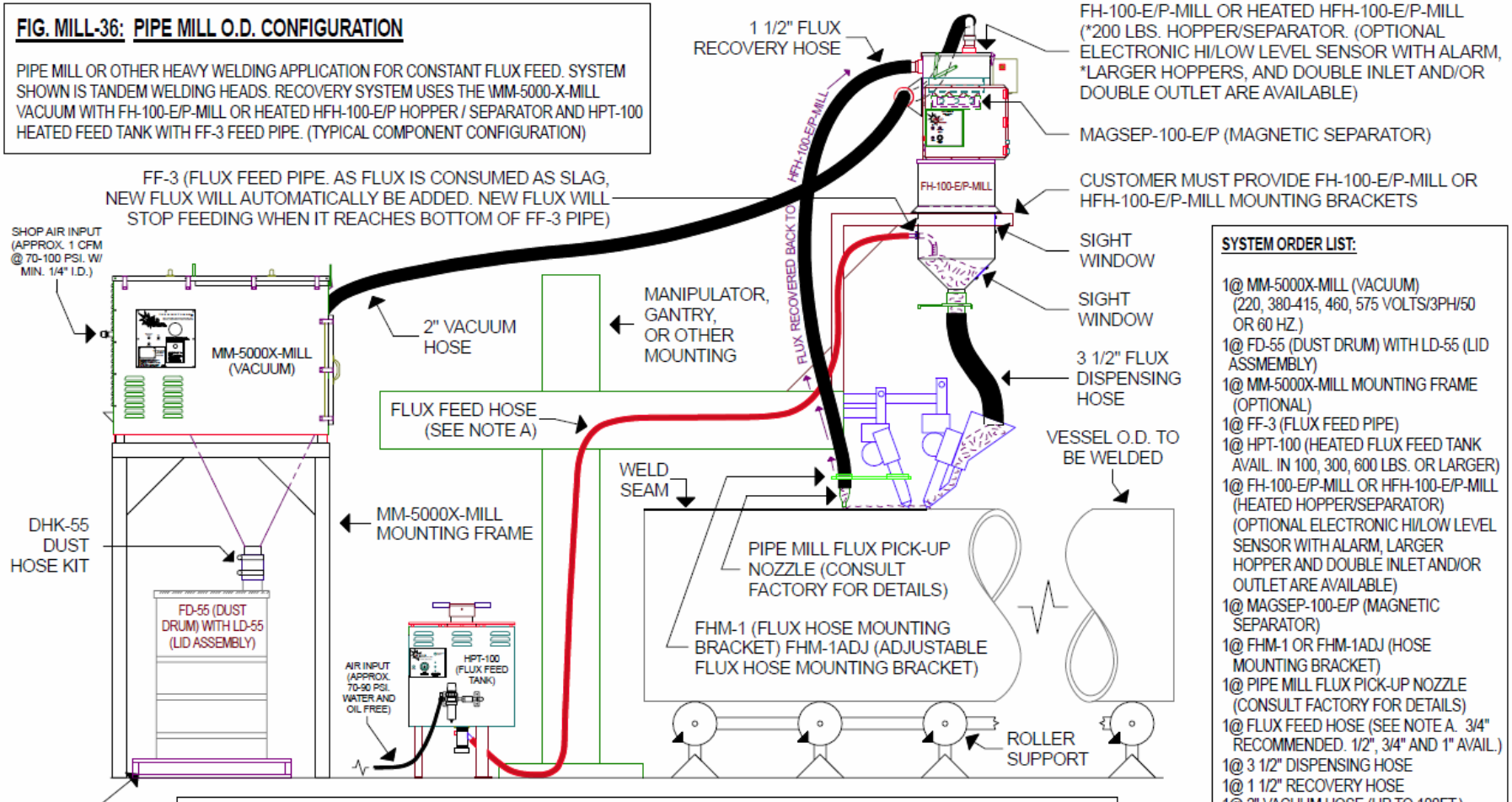
FIGURE MILL-36

FIG. MILL-36: PIPE MILL O.D. CONFIGURATION

PIPE MILL OR OTHER HEAVY WELDING APPLICATION FOR CONSTANT FLUX FEED. SYSTEM SHOWN IS TANDEM WELDING HEADS. RECOVERY SYSTEM USES THE \MM-5000-X-MILL VACUUM WITH FH-100-E/P-MILL OR HEATED HFH-100-E/P HOPPER / SEPARATOR AND HPT-100 HEATED FEED TANK WITH FF-3 FEED PIPE. (TYPICAL COMPONENT CONFIGURATION)



SYSTEM ORDER LIST:

1@ MM-5000X-MILL (VACUUM) (220, 380-415, 460, 575 VOLTS/3PH/50 OR 60 HZ.)
1@ FD-55 (DUST DRUM) WITH LD-55 (LID ASSMEMBLY)
1@ MM-5000X-MILL MOUNTING FRAME (OPTIONAL)
1@ FF-3 (FLUX FEED PIPE)
1@ HPT-100 (HEATED FLUX FEED TANK AVAIL. IN 100, 300, 600 LBS. OR LARGER)
1@ FH-100-E/P-MILL OR HFH-100-E/P-MILL (HEATED HOPPER/SEPARATOR) (OPTIONAL ELECTRONIC HI/LOW LEVEL SENSOR WITH ALARM, LARGER HOPPER AND DOUBLE INLET AND/OR OUTLET ARE AVAILABLE)
1@ MAGSEP-100-E/P (MAGNETIC SEPARATOR)
1@ FHM-1 OR FHM-1ADJ (HOSE MOUNTING BRACKET)
1@ PIPE MILL FLUX PICK-UP NOZZLE (CONSULT FACTORY FOR DETAILS)
1@ FLUX FEED HOSE (SEE NOTE A. 3/4" RECOMMENDED. 1/2", 3/4" AND 1" AVAIL.)
1@ 3 1/2" DISPENSING HOSE
1@ 1 1/2" RECOVERY HOSE
1@ 2" VACUUM HOSE (UP TO 100FT.)

NOTE A: FEED HOSE INSIDE DIAMETER CHANGES MAXIMUM FLUX FEED RATE AND FLUX FEED NOZZLE SIZE

INSIDE DIAMETER	*MAX FLUX FEED RATE*	*FLUX FEED NOZZLE*
1/2"	1 1/2 LBS. (.68 KG.)/MIN.	USE T-NOZ-1/2"
3/4"	4 TO 6 LBS. (1.81-2.72 KG.)/MIN.	USE T-NOZ-3/4"
1"	6 TO 8 LBS. (2.72-3.63 KG.)/MIN.	USE T-NOZ-1"

BASED ON AGGLOMERATED FLUX AND MAXIMUM HOSE LENGTH OF 50 FT. (CONSULT FACTORY FOR DETAILS)

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