

# Martin® Vibroller™ Roller Vibrator Installation Instructions



## ⚠ DANGER

Before installing equipment, turn off and lock out/tag out all energy sources to the hopper, conveyor, and/or conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

1. Turn off and lock out/tag out energy source according to American National Standards Institute (ANSI) z244.1-1982 and Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910.
2. Make sure mounting surface and vibrator are clean and free of debris.
3. See Figure 1. Locate vibrator in lower 1/4 to 1/3 of structure slope length. If second vibrator is needed, mount 180 degrees from first vibrator and halfway up slope.

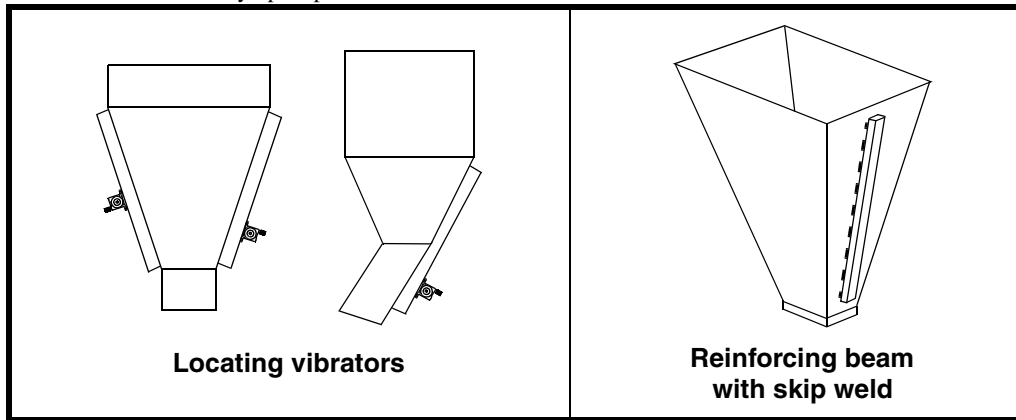


Figure 1. Locating Vibrators and Reinforcing Beams on Hoppers

## ⚠ CAUTION

If reinforcing beam is not skip welded, hopper may be damaged by operating vibrator.

4. If necessary, install reinforcing beam to strengthen chute wall (see Figure 1). Skip weld beam in place: Weld 3 in. (76 mm) then skip 2 in. (51 mm). Repeat for entire perimeter of beam. Do not weld last 1 in. (25 mm) of either end of beam or any corner. Make sure beam extends at least 3/4 the length of structure from top to bottom.
5. Install mounting plate. Skip weld in place. (Mounting plate should be at least the size of vibrator base.)
6. Install vibrator onto mount using new cap screws, compression washers, and lock nuts. See Table I for mounting bolt sizes and torque requirements.

Table I. Mounting Bolts and Torque Requirements

Vibroller™ Model Number	Bolt Size	Torque ft-lb (kgm)
ARF-10, ARL-10	5/16 (M8)	17 (2)
ARF-19, ARL-13, ARL-16, ARU-19	3/8 (M10)	31 (4)
ARU-38	5/8 (M16)	150 (21)
ARU-55	1/2 (M12)	64 (9)
ARU-82, ARU-88	3/4 (M20)	265 (37)

# IMPORTANT

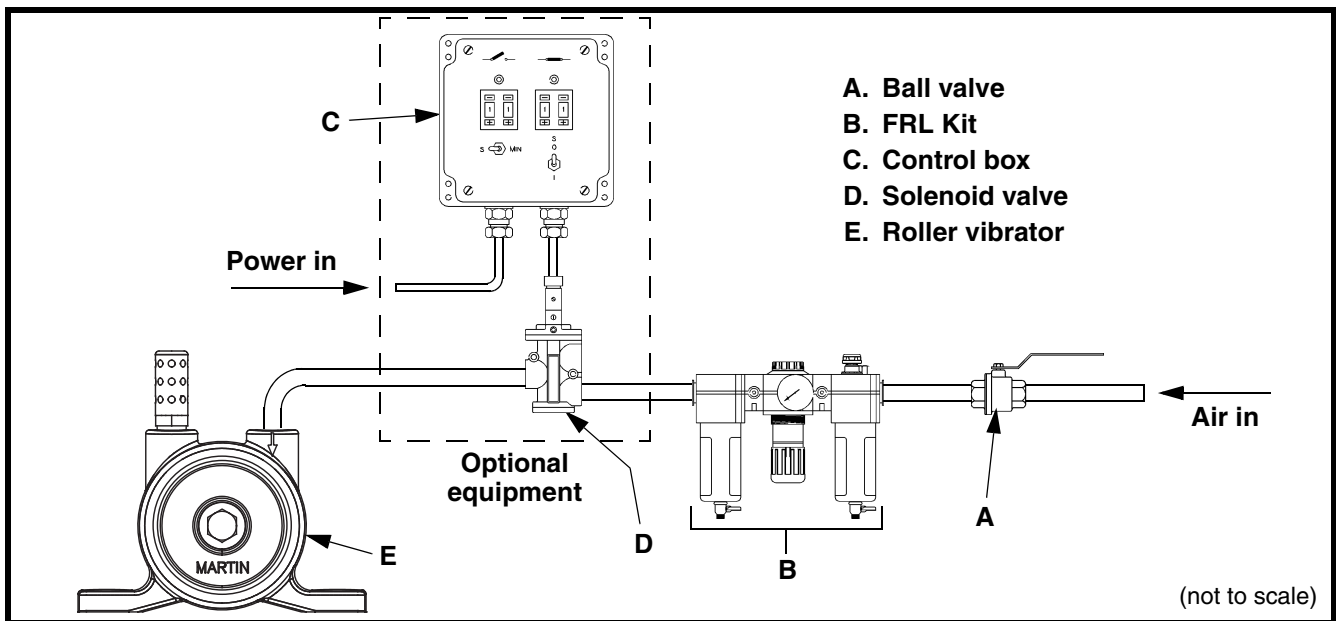
**Lubricated air must be used to ensure proper operation of the vibrator/impactor. Set lubricator to deliver 1–3 drops of oil per minute. Use Martin® Air Motor Oil or an equivalent, such as spindle oil ISO 22 or SAE No. 10 non-detergent oil.**

7. Run a lubricated air line (supplied by the customer) to the intake on the vibrator as follows. (See Table II for recommended pipe sizes.)
  - a. See Figure 2. Connect air line to ball valve (A) and Filter/Regulator/Lubricator (FRL) Kit (B). Set lubricator to deliver 1–3 drops of oil per minute.

# WARNING

**Wire control box and solenoid in accordance with National Electrical Code Article 430. Have wiring installed by a qualified electrician only.**

- b. If using, connect power to control box (C) and solenoid valve (D). Run lubricated air lines through solenoid valve to vibrator (E).
  - c. Connect air to vibrator.



**Figure 2. Connecting Air Lines to Vibrator**

**Table II. Recommended Pipe Size for Compressed Air Flow to 125 psi (8.62 bar)**

Air Volume cfm (cls)	Pipe Length—ft (m) Nominal Pipe Diameter									
	25 (8)	50 (15)	75 (23)	100 (31)	150 (46)	200 (61)	300 (92)	500 (152)	1000 (305)	
6 (2.8)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4
18 (8.5)	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
30 (14.2)	3/4	3/4	3/4	3/4	1	1	1	1	1-1/4	1-1/4
45 (21.3)	3/4	3/4	1	1	1	1	1-1/4	1-1/4	1-1/4	1-1/4
60 (28.3)	3/4	1	1	1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
90 (42.5)	1	1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	2	2
120 (56.6)	1	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2	2	2
150 (70.8)	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	2	2	2	2	2-1/2
180 (85)	1-1/4	1-1/2	1-1/2	1-1/2	2	2	2	2	2-1/2	2-1/2
240 (113.3)	1-1/4	1-1/2	1-1/2	2	2	2	2	2-1/2	2-1/2	3
300 (141.6)	1-1/2	2	2	2	2	2	2-1/2	2-1/2	3	3
360 (170)	1-1/2	2	2	2	2	2-1/2	2-1/2	2-1/2	3	3

8. Start vibrator.
9. After 1 hour of operation, tighten mounting bolts while vibrator is operating to fully seat vibrator.

### ***Weekly Maintenance***

1. Turn off and lock out/tag out energy source according to ANSI standards (see “Installation”).
2. Make sure fasteners are tight. Tighten if necessary.
3. Check filter for clean/dry air.
4. Check lubricator oil level. Add oil if necessary.

### ***Troubleshooting***

<b>Symptom</b>	<b>Corrective Action</b>
Vibrator does not come up to speed.	Check air supply for cfm. Check air filter to insure there are no restrictions. Check muffler to insure there are no restrictions. Check mount for loose fit and/or broken welds.
Excess noise	Check mount for loose fit and/or broken welds.

Performance Chart and Part Numbers for Vibroller™ Vibrators

Model	Part Numbers		Unbalance lb.-in.	20 psi (1.38 bar)			40 psi (2.76 bar)			60 psi (4.14 bar)			80 psi (5.51 bar)			Test Data†		
	Assembly	Muffler		vpm*	Force lb (kg)	cfm** (lit/min)	vpm*	Force lb (kg)	cfm** (lit/min)	vpm*	Force lb (kg)	cfm** (lit/min)	vpm*	Force lb (kg)	cfm** (lit/min)	vpm*	Max. lb (kg) Material in Slope of Bin	db‡
ARF-10	ARF-10M	210314	.003	19000	31 (14)	—	23000	45 (20)	2.0 (57)	25000	53 (24)	2.0 (57)	26000	58 (26)	4.0 (113)	580	18,200	85
ARF-19	ARF-19M	210315	.05	8000	91 (41)	2.5 (71)	11000	172 (78)	5.0 (142)	14500	299 (136)	10.0 (283)	19500	540 (245)	14.0 (396)	5400	13,500	85
ARL-10	ARL-10M	210314	.003	19000	31 (14)	—	23000	45 (20)	2.0 (57)	25000	53 (24)	2.0 (57)	26000	58 (26)	4.0 (113)	580	18,200	85
ARL-13	ARL-13M	210314	.008	12000	33 (15)	—	22000	110 (50)	2.0 (57)	24000	131 (59)	4.0 (113)	25000	142 (64)	6.0 (170)	1420	22,000	85
ARL-16	ARL-16M	210315	.02	8000	36 (16)	—	13500	104 (47)	3.0 (85)	17000	164 (74)	5.0 (142)	19000	205 (93)	7.0 (198)	2050	13,300	85
ARU-19	ARU-19M	210315	.05	8000	91 (41)	2.5 (71)	11000	172 (78)	5.0 (142)	14500	299 (136)	10.0 (283)	19500	540 (245)	14.0 (396)	5400	13,500	85
ARU-38	ARU-38M	210316	.5	5500	430 (195)	8.0 (227)	8000	910 (413)	15.0 (425)	10000	1421 (645)	21.0 (595)	10500	1566 (710)	29.0 (821)	15200	7350	85
ARU-55	ARU-55M	210316	.5	5500	430 (195)	8.0 (227)	8000	910 (413)	15.0 (425)	10000	1421 (645)	21.0 (595)	10500	1566 (710)	29.0 (821)	15200	7350	85
ARU-82	ARU-82M	39111	2.0	4200	1003 (455)	20.0 (566)	5600	1782 (808)	35.0 (991)	6150	2150 (975)	46.0 (1303)	7000	2785 (1263)	60.0 (1699)	28000	4900	85
ARU-88	ARU-88M	39111	.8	6100	846 (384)	30.0 (850)	10000	2273 (1031)	40.0 (1133)	10500	2506 (1137)	46.0 (1303)	11500	3006 (1364)	52.0 (1473)	30000	6400	85

\*Vibrations per minute.

\*\*Cubic feet per minute.

†Decibels measured with muffler connected to exhaust port and vibrator securely mounted on test block. VPM represents highest speed vibrator can attain and produce 85 db or less. (Note: Test is a comparison of vibrators. Levels will vary with each application.)

— ISO 9001:2008 —

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