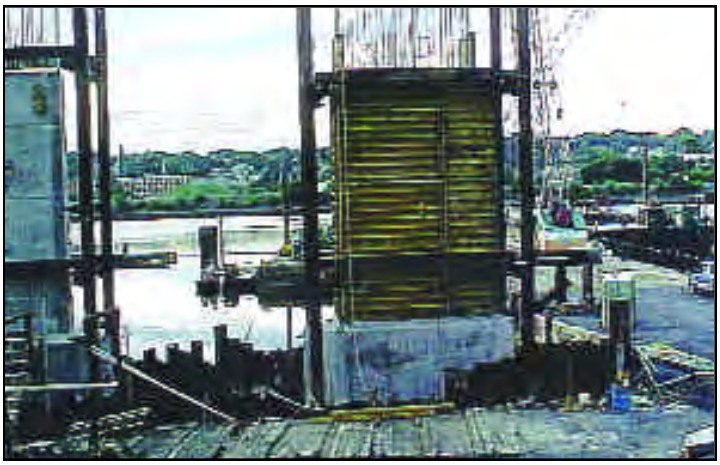
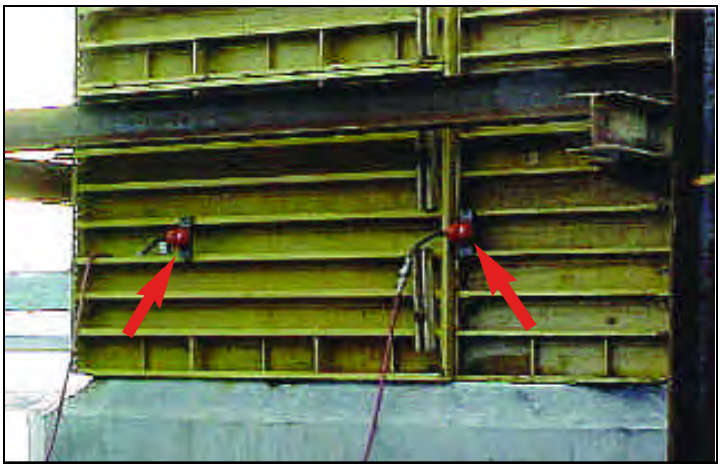
MODEL SVRFS-4000 PNEUMATIC VIBRATORS ON COLUMN FOR BRIDGE BETWEEN SOMERSET & FALL RIVER, MA



Columns had a large amount of rebar. The first pour with internal vibrators came out with large voids and honeycombs. Model SVRFS-4000 high frequency Pneumatic Vibrators were recommended instead of internals. The same portable bracket that was designed for the EFCO-Forms (page 11) was used and straddled 2 form stiffeners. The vibrators were easily moved up the form as the pour progressed. Vibrators were placed on 6′ centers around form and next row 6′ higher. Vibrating procedure and time followed instructions on page 14. The honeycombs disappeared, the finish was excellent without any need for patching.



Vibrators placed on 6′ centers around form. Next higher row 6′ up.

Special Bracket straddling two form stiffeners.

EQUIPMENT USED PNEUMATIC:

MODEL SVRFS-4000
(CCF-4000 ALTERNATE EQUIPMENT)

11500 VPM at 80 PSI
40 CFM & 80 dB

(Page 14 in Concrete Handbook)

Bracket Model CCEC-3 specially made by VIBCO!

EFCO-FORMS with MODEL SVRLS-4000 HIGH FREQUENCY VIBRATORS – RTE 95 IN CONNECTICUT

JOB SITE: Renovation of bridge columns on Rt. 95 Conn.

PROBLEM: Internal vibrators would not reach bottom of column due to rebars.

SOLUTION: Model SVRLS-4000 (page 6 of Concrete Handbook) was recommended. VIBCO designed a special bracket to be attached to the EFCO form and fit between two horizontal stiffeners. When loosening the clamping bolts it could be removed and moved up the form as the pour progressed. A total of 8 vibrators were used – one on each side. Vibrators were started when the concrete reached them and continued until it reached the next group of vibrators 6' up. They were then stopped and moved 6' above top row of vibrators. Vibration time approx. 5 min. Concrete was trucked in from local ready mixed plant. (6" slump)

RESULT: Columns came out perfect. The customers word was - "They look just like marble..."

EQUIPMENT USED PNEUMATIC:

MODEL SVRLS-4000
12000 VPM
40 CFM & 85 dB

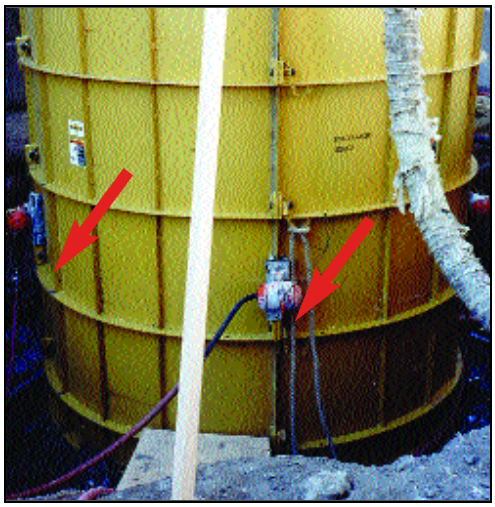
(Page 6& 14 in Concrete Handbook)

ALTERNATIVE PNEUMATIC EQUIPMENT:

CCL-4000
6000 VPM
35 CFM & 78 dB

Bracket Model CCEC-3 specially made by VIBCO!

ROUND & SQUARE COLUMN FOR BRIDGE SUPPORTS



EQUIPMENT USED PNEUMATIC:

MODEL SVRFS-4000
11500 VPM at 80 PSI
40 CFM & 80 dB
CCFC-3 CLAMP-ON BRACKET
(Page 11 & 14 in Concrete Handbook)

BRIDGEPORT, CT: A round column form was used for casting support columns for elevated highway thru Bridgeport, Connecticut. Internal vibrators could not be used due to closeness of high tension electrical wires, and close spacing of rebar. VIBCO's Model SVRFS-4000 Pneumatic Vibrators were used with clamp-on brackets. They were placed on 4' centers around the form. Next row 4' up and 45° off first row. Vibrators were started when concrete reached them and continued to vibrate until concrete reached next row. These were then started and the lower row vibrators were moved to next higher position.

Contractor was excited about the ease of using external vibrators and the finish achieved. In his own words: "The column looks just like marble, no patching was necessary."

PROVIDENCE, RI:

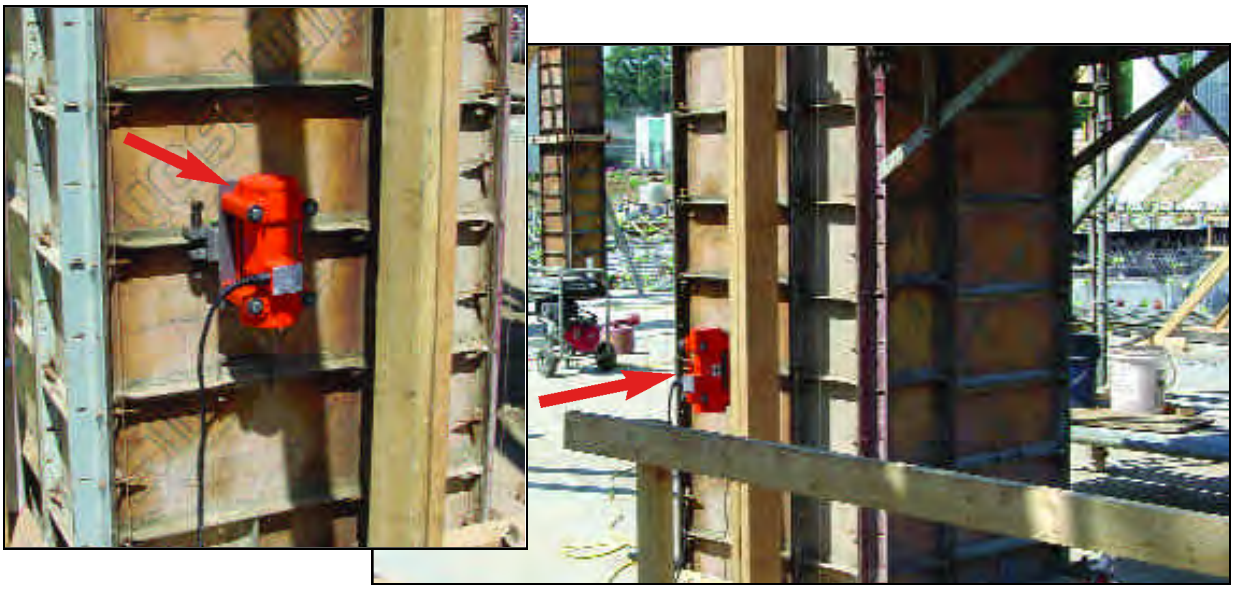
JOB SITE: Square bridge support, Providence, RI junction of Rt. 95 & 195
PROBLEM: The rebar spacing was so close internal vibrators could not be used, plus a form liner also reduced the space.
SOLUTION: Four VIBCO Model US-1600 electric vibrators were used in two rows. First row of 2 vibrators 180° apart at 2-1/2' from bottom. Next row 90° from first and 7-1/2' up. First row of vibrators was started when pour reached them and kept running until pour reached next row which was then started. First row was then moved 10' up form. This continued until column was complete. At end of pour top row of vibrators was run until no more air bubbles surfaced and a glossy slick surface appeared.
RESULT: The finish result was beyond expectations. Surface finish was extremely smooth and without blemishes.

EQUIPMENT USED

MODEL US-1600
115 Volt - 1 Phase
5 Amps - 9000 VPM

MODEL USF-3 WOODFORM BRACKET
(Page 11 & 16 in Concrete Handbook)

HUGE STATE UNIVERSITY RESEARCH LAB: 150+ COLUMNS BUILT



PROBLEM: To ensure placement of dense concrete with architectural finish in 24″ square x 28 foot tall supporting piers.

EQUIPMENT: Concrete supplied by transit-mix truck, to be placed into Symons forms. VIBCO US-1600 Electric External Vibrators fitted with bolt-on brackets. Power available: 115 volt AC from field generators.

SOLUTION: The Symons forms had angle L-iron stiffening frames to which US-1600 bolt-on adapters could be attached. Vibrators mounted to forms in a staggered manner on opposite sides at the 2′, 7′, 12′, 17′, 22′, and 27′ levels. They were operated in succession for about one minute each until concrete reached about 6″ above each vibrator. Vibrators were moved to next higher position as pour progressed.

RESULT: No honeycombs! No unsightly holes! No patching up! A good-looking job done quickly and efficiently!

CONTRACTOR COMMENT: The best equipment purchase they ever made!

ELECTRIC EQUIPMENT:

MODEL US-1600
115 Volt - 1 Phase
5 amps - 9000 VPM

MODEL UC-2
Clamp-On Bracket

(Page 11 & 16 in Concrete Handbook)

ALTERNATIVE PNEUMATIC EQUIPMENT:

MODEL CCF-2000 or SVRFS-4000

CCFC-3 Clamp-On Bracket

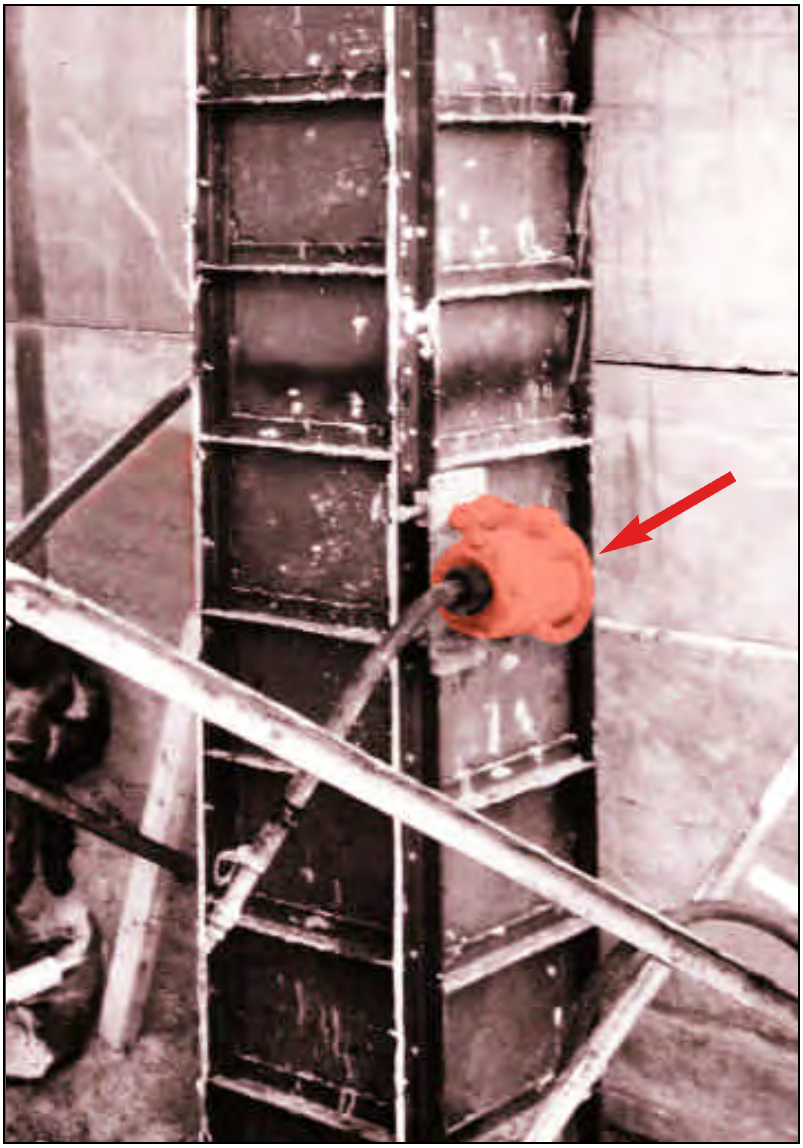
(Page 11 & 14 in Concrete Handbook)

LARGE APARTMENT COMPLEX

PROBLEM:
Rebar made it difficult to use internal vibrators and the form was too tall for internal vibrators to reach bottom. The columns came out with large voids and unvibrated surfaces.

SOLUTION:
Contractor had large compressor on job site and 2 Pneumatic Model SVRLS 4000 High Frequency Vibrators mounted on a clamp-on bracket with a lug bracket were recommended (Page 6 of Concrete Handbook).
The lug-bracket was chosen so the contractor could move the vibrators to other permanently mounted lug brackets on his wall forms. Vibrators were mounted 2′ from bottom and 7′ from bottom then moved 5′ each time. Vibrators were started when concrete reached them and stopped when concrete reached the opposite higher vibrator, which then was started.

RESULT:
Excellent surface finish was achieved without any rework needed. Concrete completely consolidated.



EQUIPMENT USED PNEUMATIC:

MODEL SVRLS-4000
12000 VPM
40 CFM & 80 dB
with Clamp-On Bracket

(Page 6 & 14 in Concrete Handbook)

ALTERNATIVE ELECTRIC EQUIPMENT:

MODEL US-1600
115 Volt - 1 Phase
5 amps - 9000 VPM

MODEL UC-2
Clamp-On Bracket
(Page 11 & 16 in Concrete Handbook)