CAST-IN-PLACE WALL SECTIONS

PROBLEM: Wall sections were being cast between precast columns. It was impossible to reach the mix so internal vibrator could not be used.

SOLUTION: Model US-1600 electric vibrators were used with wood form brackets (page 10 of Concrete Handbook), 2 x 4 wood planks were placed on the Symons form at 4' intervals and the vibrator was clamped to the wood.

RESULT: By using high frequency vibrators, the concrete consolidated properly and an excellent almost architectural surface finish was obtained.

Bracket with vibrator clamped to a 2 x 6.

EQUIPMENT USED:

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

MODEL UC-2
Clamp-On Bracket

(Page 11 & 16 Concrete Handbook)

ALTERNATIVE PNEUMATIC EQUIPMENT:

MODEL CCF-2000 or SVRFS-4000

BRACKET CCFC-3

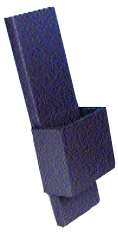
(Page 10 & 14 Concrete Handbook)

IO MODEL US-1600 ELECTRIC VIBRATORS ON 20′ HIGH WOODEN FORM SYSTEM

PROBLEM: Workers handling 20′ long internal vibrators while standing on ladders became a safety concern. The contractor decided to use external vibrators.

SOLUTION: Working with VIBCO's engineers, a special bracket was designed that could easily be attached and removed from the form when using Model US-1600 vibrators (page 4 of Concrete Handbook). Vibrators were placed 8′ apart and staggered on 4′ levels. Vibrators were started when concrete reached them and they ran until pour reached next level of vibrators.

COMMENTS: Finish came out perfect. Contractor was very pleased and is now committed to using external vibrators because of safety, ease of handling and product finish.



EQUIPMENT USED:

UWF-1 Bracket

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

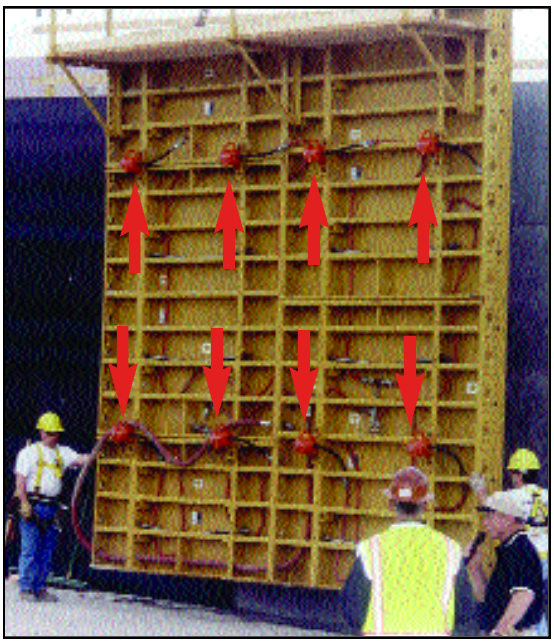
(Page 4, 5 & 16 Concrete Handbook)

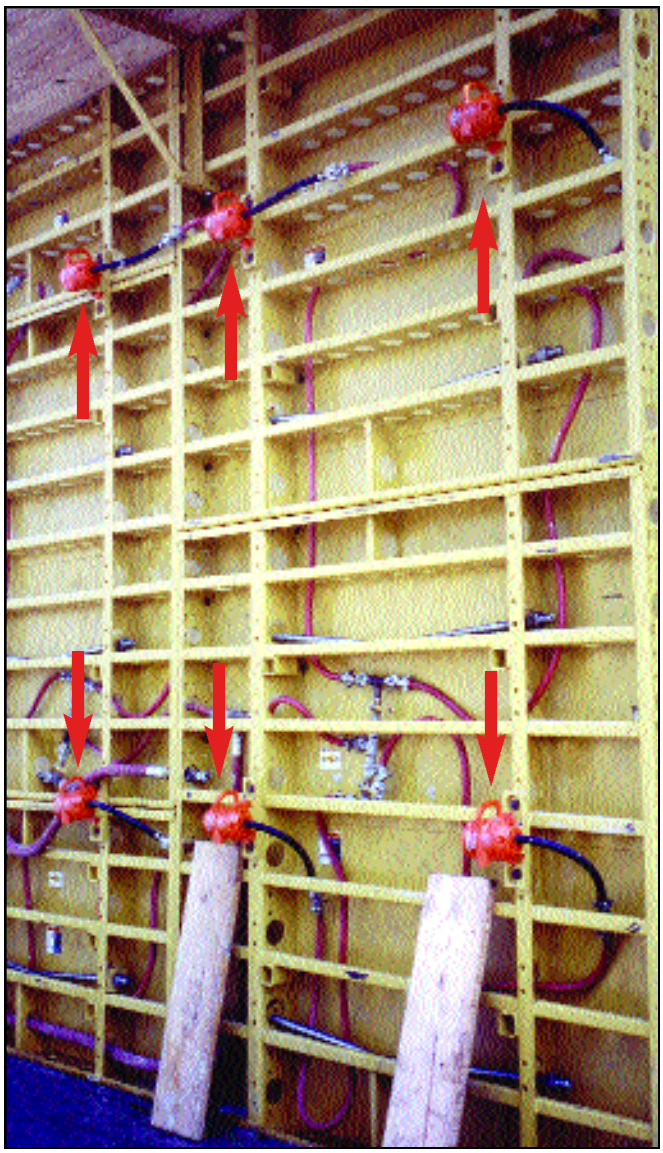
ALTERNATIVE PNEUMATIC EQUIPMENT:

MODEL CCW-2000 or SVRWS-4000

(Page 3 & 14 Concrete Handbook)

EFCO – 16′ HIGH x 12′ WIDE WALL FORM





EFCO'S HI-PRO FORM 16′ high and two 6′ wide wall forms were equipped with 8 Model SVRWS-4000 VIBCO Pneumatic Wedge Type Vibrators. A special bracket was designed by EFCO and VIBCO's engineers. A high capacity concrete pump filled the form in 5 minutes. Due to the fast pour and smooth finish required the vibrators were placed on each vertical stiffener giving additional vibration force to the stiffer form joints. The lower row of vibrators were started when the concrete reached them and continued to vibrate until concrete reached the row of vibrators at 8′ high position. These were then started and run until the form was filled and a glistening slick surface appeared. Maximum density was achieved with a glossy, almost architectural finish.

EQUIPMENT USED:

PNEUMATIC SVRWS-4000
12000 VPM
40 CFM & 80 dB

UWF3-HP FEMALE BRACKET

(Page 3 & 14 in Concrete Handbook)

UWF-Bracket was welded onto a flat plate with drilled holes to match existing holes on the form stiffeners for easy removal and repositioning.

LARGE BASEMENT WALL FORMS

PROBLEM: Customer was using internal vibrators on wall form causing a lot of voids and blemishes. Customer spent considerable time after each pour patching and rubbing walls.

SOLUTION: Model US-1600 with a special clamp-on bracket was placed and staggered on a 4' radius. Procedure was to pour a layer of concrete, vibrate with internal vibrators and then use the external vibrators. Vibrators were powered by 115 volt field generators.

RESULT: A void-free wall was obtained with an almost architectural finish. Minimal patching of joints was the only work contractors had to do after the pour.

EQUIPMENT USED

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

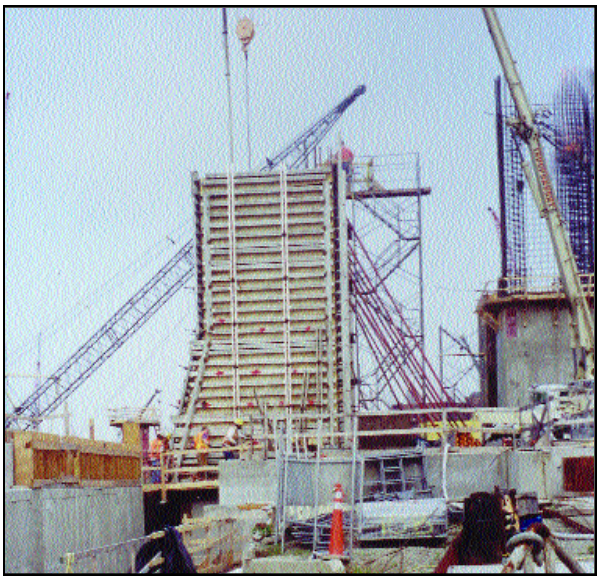
MODEL USF-3
WOODFORM BRACKET
(Page 10 & 16 in Concrete Handbook)

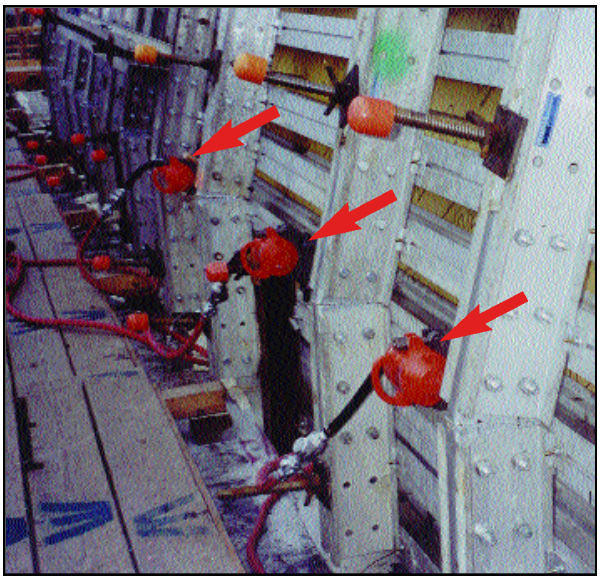
ALTERNATIVE PNEUMATIC EQUIPMENT:

MODEL CCF-2000 or
SVRFS-4000
BRACKET CCFC-3

(Page 10 & 14 in Concrete Handbook)

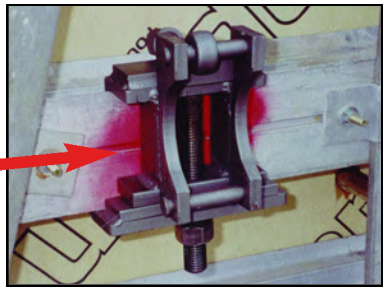
THE "BIG DIG" IN BOSTON – MODEL SVRLS-4000 USED ON FORM FOR VENTILATING SHAFT

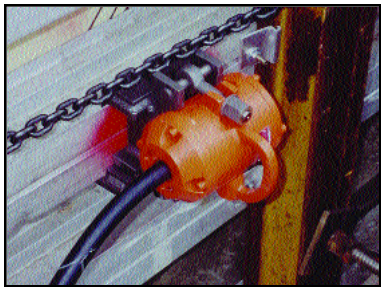




The exterior walls needed to be as free from blemishes and bug holes as possible. The form was made up of aluminum stiffeners mounted against a plywood face. For a smooth architectural finish Model SVRLS-4000 Pneumatic Vibrator with 15000 vibrations per minute at 100 PSI was recommended. A special bracket was designed to grip the aluminum form stiffeners. Vibrators were placed on 6′ centers and 6′ between rows. The contractor marked the vibration locations with spray paint prior to the pour to eliminate any confusion where to place vibrators once the pour was started. Vibrators were started when concrete reached the first row and continued until concrete reached the next row of vibrators. These were then started. The finished wall came out better than expected. No patching necessary.

Special Bracket designed by VIBCO with lug-bracket for vibrator allowing vibrator to be moved from bracket to bracket.





EQUIPMENT USED
PNEUMATIC:

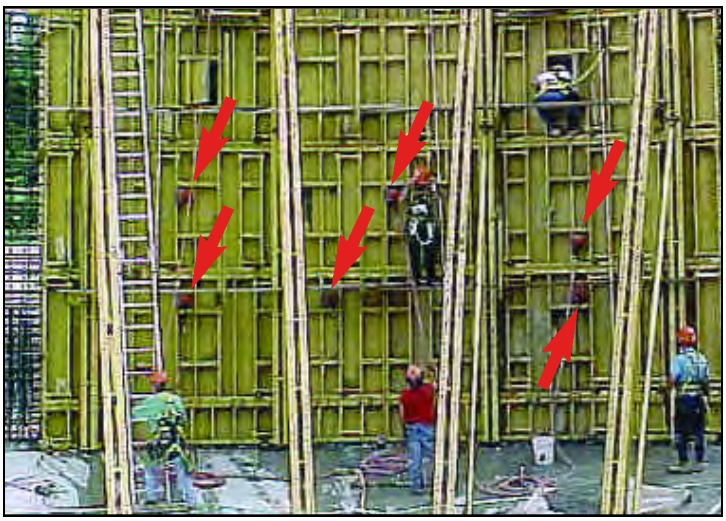
MODEL SVRLS-4000
(CCL-4000 ALTERNATE EQUIPMENT)
15000 VPM at 100 PSI
50 CFM & 85 dB
Special Bracket designed by VIBCO

(Page 6 & 14 in Concrete Handbook)

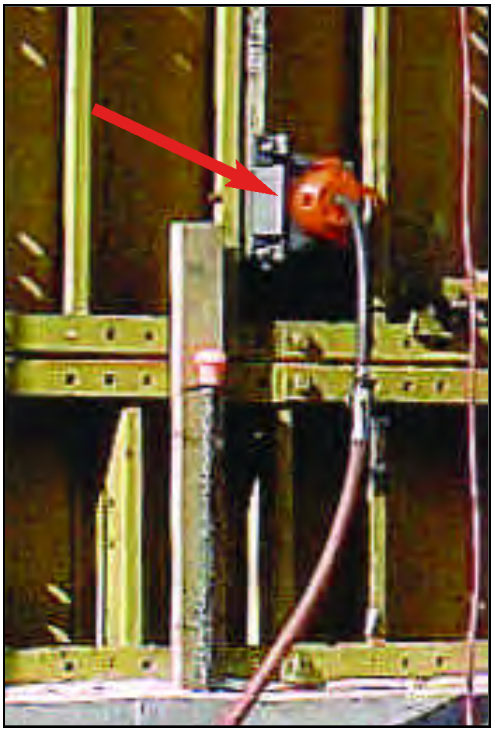
Bracket
Model CCMC-341
specially made by
VIBCO!

WASTE WATER TANKS – LAWRENCE, MA

EFCO-Ready radius forms were used to cast 32′ high waste water tanks. The very close steel rebar made it impossible to use internal vibrators. 12 Model SVRFS-4000 VIBCO pneumatic vibrators were staggered on the form starting 2′ from the bottom to insure that concrete flowed around rebars. Required density was achieved and contractor saved several days work using external vibrators. 3 tanks were constructed.



Wall section to be cast – notice the tight rebar.



Special vibrator bracket was designed to clamp on to form stiffener.

Close up of vibrator spacing.

EQUIPMENT USED
PNEUMATIC:

MODEL SVRFS-4000
(Model CCF-4000 - ALTERNATE EQUIP)
12000 VPM
40 CFM & 85 dB

(Page 14 Concrete Handbook)

Bracket specially made by VIBCO!

24 MODEL SVRLS-4000 VIBRATORS ON TALL FORM

PROBLEM: A contractor had a very tall wall where the exposed side had to be blemish free. The rebar spacing was very tight, so it was almost impossible to get an internal vibrator down inside the wall form.

SOLUTION: 24 VIBCO Model SVRLS-4000 combined with specially designed brackets were used. The vibrators were arranged in two rows. The arrangement insured that the pour would not have to stop as the vibrators were moved from row to row. The vibrators were turned on as soon as the concrete reached a vibrator level. Each vibrator on the row continued to operate until the concrete level reached the next row of vibrators. The vibrators were operated only while the concrete was being pumped into the form.

RESULT: The finished concrete had a smooth, void free surface, and the need for touchup was virtually eliminated. Using the external vibrators freed up several men because they did not have to wrestle with the long shaft that was needed for an internal vibrator. Another issue eliminated was the safety factor. Nobody needed to climb up on top of the form to insert a vibrator.

EQUIPMENT USED:

SVRLS-4000

(Page 6 &14 in Concrete Handbook)

SPECIALBRACKET CCFF-1 was made to fit form

ALTERNATIVE PNEUMATIC EQUIPMENT:

4PL-1600

115/230 Volt
1 Phase 5/2-5A
9000 VPM
(3 Phase Available)

(Page 6 & 16 in Concrete Handbook)