

# RaMeC Side – Grip against 25% - 100% **Stronger** End – Grip vibrators

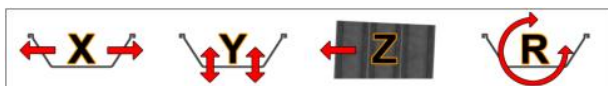
Job report of 800 000 m (2,4 milj. feet) Sheet-Piling job.

	RaMeC SGV 90	Exc. mountable vibrator	Crane suspensible vibrator
Excavator or Crane	Hyundai 330	Hyundai 420	Liebherr crawler crane
Vibration power <sup>1)</sup>	97 kW	123kW	> 200kW
Measured performance	40 – 50m /hr	20 – 22m / hr	25 – 30m /h
Length of the pile	10m (30f)	10m (30 f)	10m (30f)
Soil / penetration <sup>2)</sup>	Clay / silt / (100)	clay / sill (90) <sup>2)</sup>	day / still (100???)
Straightness of the pile	very straight <sup>4)</sup>	problems in “R” direction <sup>4)</sup>	problems of X,Y,Z <sup>4)</sup> and “R” directions
Quality of work <sup>3)</sup>	very good <sup>3)</sup>	satisfactory <sup>3)</sup>	satisfactory <sup>3)</sup>
Manpower needed	1 – 2 men	4 – 5 men	4 men
Extra weldings needed <sup>4)</sup>	Very seldom <sup>4)</sup>	almost all the time <sup>4)</sup>	all the time <sup>4)</sup>
Driving anchors	12m (36f) anchor in 15 minutes – no problem	not possible	not possible
Fulfilling safety <sup>5)</sup> regulations	yes <sup>5)</sup>	very much extra work needed <sup>5)</sup>	very much <b>extra</b> work needed <sup>5)</sup>

<sup>1)</sup> **The hydraulic power** is the **ONLY** way to compare different type of vibrators. Long amplitude/big torque machine is good in clay, short amplitude is better in sand and also **causing much less ground vibration**, but both **are “poor”** in silt (London clay) -> **see our Dresden job-report – Appendix “B”**.

<sup>2)</sup> When the End – Grip **failed**, RaMeC could **continue** to work.

<sup>3)</sup> RaMeC had no problems in X, Y, Z or “R” directions “X” = to left or right, “Y” distance, “Z” = pile wall “falling”, “R” when the pile starts to rotate itself.



<sup>4)</sup> If the second pile is **not parallel** with first pile the **extra** friction will **also** drive the first pile down.

<sup>5)</sup> In all countries incl. Russia the **safety regulations** say very **CLEAR** – **“Nobody allowed to stay within working area”**. **ONLY** some Side-Grip vibrators are fulfilling these regulations. **ONE** reason, why RaMeC’s performance is so much bigger.

**RaMeC against other Side-Grips or how UP/DOWN hammer beats 500kW Piling-Rig:**

Please see the comparison tables and **Dresden job-report** = Appendix “B” and video.

**HOW STILL TO DECREASE WORKING COSTS?? (see job-report):**

None of 3 vibrators could drive all Sheet-Piles deep enough – THE **ONLY** solution is RaMeC UP/DOWN hammer. See [www.ramec.fi](http://www.ramec.fi)