

NEWSLETTER

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Haenni Wheel Load Scales
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HSWIM Calibration

More and more HSWIM systems around the world are calibrated with HAENNI static wheel load scales to determine the REFERENCE WEIGHT. As this is the common way to calibrate in Switzerland as well, we asked for an invitation to join that job at the site near the city of Zurich.

Interview with Mr. Mastrangelo from EMPA (Swiss Federal Laboratories for Materials Testing and Research)

HAENNI: How often do you have to re-calibrate the eight HSWIM installations in Switzerland?

Mastrangelo: The Swiss Federal Roads Authority (ASTRA) contracted the EMPA, to execute the calibration once a year. If there was any kind of repair at one site, we would have to re-calibrate it additionally right after the repair. We are the only company authorized to do this job. Our team of three EMPA employees is supported by five people of the road maintenance, three to six Policemen and two people from the ASTRA. The calibration of one site, (two lanes in one direction), is a one day job for 15 people.

H: Could you please roughly describe the procedure?

M: Yes, of course! We install ourselves for the measurements at a little rest stop (lay by) a few kilometres away from the HSWIM. The Police staff pulls out the reference vehicles from the random traffic onto the site. We then immediately start with the measurement of the dimensions of the vehicles (inter-axle distances and total length). A reference number is attached at the front of the vehicle for identification in the further calibration pro-

cedure. In the picture below it is the number 35 on yellow ground. Once the dimensions are measured we start to weigh the vehicle using the **HAENNI portable scales** in the axle by axle mode. In order to minimise all external errors we are using the long levelling mats and are exactly following the weighing directions issued by the federal government. The axle weights this way determined are then used as a reference for the calibration of the HSWIM system. We also take a



picture of the vehicle before sending it back to the Highway. We permanently stay in touch with the colleagues from ASTRA at the HSWIM site describing the next vehicle coming. They are taking a video sequence while the vehicle is passing the HSWIM sensors to have a prove that the vehicle has passed the sensors properly. After about 30 vehicles per lane, we have enough results to calculate the average error and the accuracy class according to the COST 323 specification. If necessary we correct the HSWIM system and perform another 10 to 20 weighings to verify the new adjustment.



Every three minutes a new vehicle is weighed. This can be any type of vehicle over 3.5t from two to six axles.

H: What accuracy can you achieve for the HSWIM?

M: Before adjustment the accuracy is often just at C level ($\pm 15\%$). If the pavement in front and behind the sensors is still in good shape, we can achieve up to level B+ ($\pm 7\%$).

H: How experienced are you in doing this job?

M: Our team is well experienced as we have been doing this job in the above manner for many years. We rely on an efficient, fast and also very accurate measurement of the axle weights. This reference weight is the base for performing a reliable calibration of HSWIM systems.

Thank you for your open and comprehensive answers!

NEW APPROVALS

We are pleased to announce that we have now approved some of our special execution scales, too and following please find a list of all approved scales for your future reference:

- WL 101 (only standard length available) 10t, 50kg division
- WL 103 2t, 10kg and 5kg division
- WL 103 standard length 10t, 50kg and 20kg division
- WL 103 standard length 15t, 50kg division
- WL 103 medium length 10t, 50kg and 20kg division
- WL 103 medium length 15t, 50kg division
- WL 103 XL 10t, 50kg division

Please note that

- WL 101 10t, and
- WL 103 15t

are only available with 50 kg division.

Also please note that the following executions are **NOT approved:**

- WL 103 **XL 10t, 20kg** division
- WL 103 **XL 15t**

And last but not least – our scales business has been going strong all year around and presently our factory is very, very well booked. We have recently received some larger orders for WL 103 scales from Taiwan and Tanzania for which we thank our agents M. Precedency of Taipei and Scan African of Dar-Es-Salaam very much. And we have just received the largest (except from a couple of bigger orders from the USA) individual order ever: from the German Army (Bundeswehr) for 158 units WL 101 wheel load scales for which we congratulate our agent MD Technik very much!