



## DAMEN PRODUCTION MEASUREMENT UNIT

### GENERAL

The **Production Measurement Unit (PMU)** with a steel pipe as core, has especially been developed, for DOP Pumps, to measure and monitoring the hydraulic sand transport. Because of the flexible discharge hoses production measurement was not possible in the past.

The new production measurement unit consists of a piece of pipe with a diameter equal to the diameter of the flexible hose. The pipe is equipped with flanges to be mounted rapidly in the flexible pipeline. The unit contains the following sensors:

- Flowmeter
- Density gauge
- Pressure Transmitter (optional)

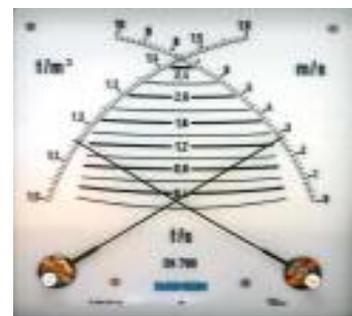
The **flowmeter** has been developed specially for the dredging industry, with soft rubber (35 mm. thick) liner and flush-mounted electrodes. The loose amplifier, which is mounted in a box together with datalogger and production calculation unit, converts the signal into a standard output signal for the yield indicator, datalogger and production calculation unit.

The **density gauge** is clamped around the pipe and measures the density by the decaying of gamma radiation through the pipe, which is proportional with the density of the transported mixture. The output signal is also connected to the yield indicator, datalogger and production calculation unit. The density gauge uses a radio-active source, for which a license is required.

The **pressure transmitter** is optional and can be used to measure the discharge pressure of the dredge pump.

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The 2 output signals from flowmeter and density gauge are connected to the **yield indicator**. Where the flow and density are displayed by 2 needles. At the intersection of the 2 needles, the production can be read, given for in situ specific gravity (s.g.) of 1.98 t/m<sup>3</sup>.



With the **production calculation unit** the material production can be calculated, instead of the mixture production, by adjusting the s.g. in situ. The production is displayed by 2 counters, a day counter (which can be reset) and a total counter.



A **datalogger** can be delivered as an option, for registration of raw data. This enables post-processing in the office. The data are registered in a spreadsheet.

The yield indicator and analogue pressure indicator are mounted in a small box. This box is equipped with a long cable, to give the possibility, to use it by the crane (DOP) operator in the crane. The rest of the equipment is placed in an outside arrangement on the site.



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DAMEN DREDGING EQUIPMENT

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