Application note

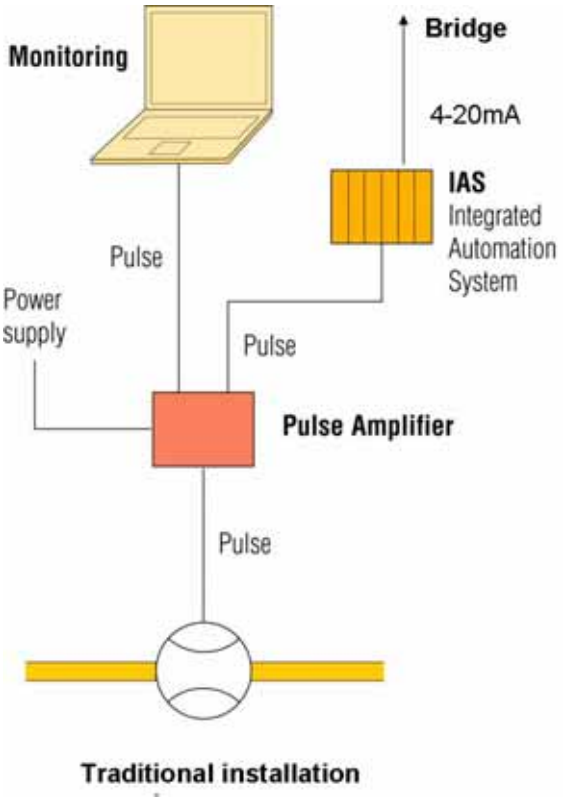
Product:	Flow meter CONTOIL® control VZF	
Customer:	Worldwide shipyards	
Application:	H.F.O/M.D.O. consumption measurement for M/E, G/E and boiler/burner	
Date:	January 2006	

Current Situation

Korean or Japanese shipyards have been using PD fuel oil meters in the same way for many years. The employed technologies gave no room to bring down installation costs since almost no innovations or improvements took place.

In comparison to Oval Gear Meters and Sliding Vane Meters the **Rotary Piston Flow Meters** offer some clear advantages in respect to installation and maintenance costs. They have less pressure loss as well as better resistance against influences from mechanical vibration, viscosity and temperature changes. Consequently **Rotary Piston Flow Meters** gained more and more market share.

Traditional PD meters only offer one pulse output. This requires one pulse amplifier for conversion into two pulse outputs: one for the monitoring system and one for the IAS. The latter to be converted into a 4-20 mA current signal to the bridge.



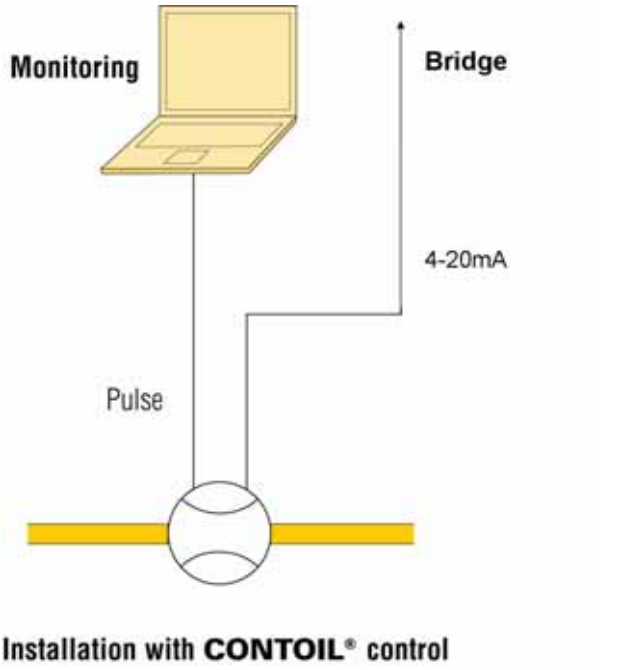
Traditional installation

Application note

New Solution

The latest contribution to an economical and technological progress from **Aquametro** is the new Rotary Piston Flow Meter **CONTOIL® control**, which offers not only the said advantages, but as well the opportunity of considerably lower system integration cost.

CONTOIL® control offers both, one pulse output and one 4-20mA current output from the electronic transmitter. Alternatively the same device may be parameterized to have two pulse outputs instead. As there are no further converters needed, the system input signal is much more accurate. There are no conversions and the risk to lose pulses. The big advantage for shipyards are lower equipment costs.



Installation with **CONTOIL®** control

Savings

Due to the simple installation the shipyards may achieve savings of up to 635 US$ independently from meter sizes. The savings are simply based on material, procurement, engineering and installation labour. The savings are estimated as to:

Example project ➢ 2 pcs fuel flow meter JIS 25A 10K ➢ 2 pcs fuel flow meter JIS 40A 10K	Pcs	Total
Material savings ➢ Paid US$ 110 MORE for new **CONTOIL® control** per meter ➢ US$ 160 per pulse amplifier ➢ US$ 120 per IAS pulse input and IAS analogue output	 4 4 4	 + US$ 440 - US$ 640 - US$ 480
Engineering savings ➢ Reduced time by 3 hours @ US$ 50/hr for drawings, IAS programming per meter etc.	4	- US$ 600
Procurement savings ➢ 3 less item to purchase & inspect @ US$ 45 per meter	4	- US$ 540
Installation labour savings ➢ Reduce time by 3 hours across installation, cabling and programming @ US$ 45/hr per meter	4	- US$ 720
Savings grand total		**US$ 2540** **(US$ 635 per meter)**