

Case Study: measurement of crude oil containing paraffin

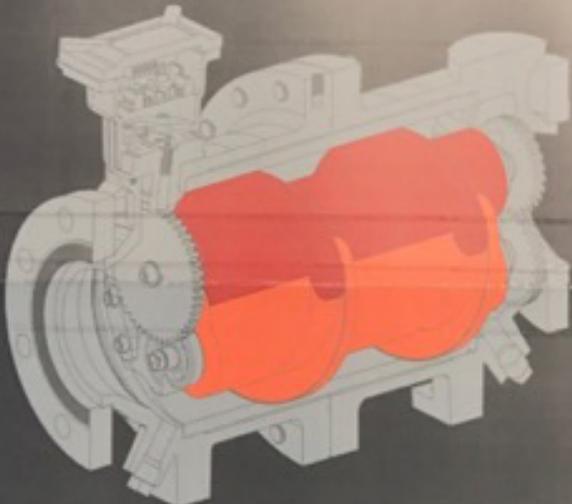
## Brodie meters chew thru paraffin

Were you driving on the Highway 33 near Cushing, OK or attended the recent ISHM in OKC and wondered what the Brodie BiRotor Plus animation related to?

Then read on..



**BRODIE FLOW METERS**  
**CHEW THRU PARAFFIN**



**CHEWPARAFFIN.COM 918.574.8999**

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## Paraffin and clogged Coriolis meters

In the summer of 2016, a pipeline operator in the Midwest was experiencing some challenges with the incumbent coriolis type meters installed in their system.

Every four to six weeks, the meters' performance would drift to a point where the meter factor was outside of the permissible tolerances. The remedial action was to bypass and remove the meter, apply steam to the inlet to loosen the build up of waxy paraffin on the vibrating tubes, flush with hot kerosene to clean and refit.

The pipeline operator reached out to Brodie with his challenge and was offered a BiRotor Plus for the purpose of trial and evaluation. The unique design of the BR+ means that the rotation of helical rotors negates the possibility of a build up and with only two moving parts, has a very low maintenance threshold.

**6 months later, the BiRotor Plus had seen zero downtime, with the end user realizing the lowered cost of ownership by virtue of great accuracy and repeatability.**

On a visit to the installation in early 2017, a pipeline technician was asked about his experiences with the BiRotor Plus compared to the previous meter?

"Man, that thing just chews through paraffin".....a marketing campaign was born!

Today, this BiRotor Plus and many more in Eagleford & Permian Basin upstream applications are providing excellent, accurate and reliable service.

The morale of the story is to really dig deep on your research when a manufacturer tells you that their technology is "maintenance free".

Things are not always as they seem!

### Universal Mounting Box [UMB]

incorporating pre-amp and field terminations. Hazardous area compliant and fully weatherproof.

### Dual Non-wetted

**Pickoffs**  
with toothed wheel pulse initialization for direct and instantaneous pulse output [no mechanical shaft].

### Ceramic Bearings

Extremely hard hybrid ceramic bearings guarantee minimal wear and reduced maintenance.

### Double Case Design

The BiRotor Plus is immune to pressure and temperature changes. It complies to API MPMS Chapter 5.2.5.2.4. Its measurement chamber is in contact with the measured liquid both on the inside and the outside of the inner case.

### Hardened Timing Gears

The only metal to metal contact point in the meter, the timing gears are made of 17-4 PH heat treated Stainless Steel.

### Twin Helical Rotors

The heart of the BiRotor Plus, these rotors never contact each other nor the measurement chamber's surface. There is minimal friction or wear - even after decades of operation.



Brodie International

P.O. Box 450 (30459-0450)  
19267 Highway 301 North  
Statesboro, GA 30461,  
USA

Email: [sales@brodieintl.com](mailto:sales@brodieintl.com)  
Phone: +1 (912)489-0200  
Fax: +1 (912) 489-0294