



Crude Oil Blending

Rising crude prices and availability of lower cost, heavy, high sulphur, viscosity and TAN crudes makes in-line blending one of the most economic methods to optimise profitability. Blending lower value oil with higher specification crudes to optimise both quality and cost can deliver multi-million dollar returns.

Jiskoot specialises in turnkey, high accuracy in-line blending solutions for heavy, viscous, waxy, high sulphur and other crude oils. Systems are designed to deliver optimal return on investment and have a significantly lower capital cost than traditional tank blending infrastructure.



In-line blenders deliver greater operational and crude purchasing flexibility and enable continuous profit optimisation. Blenders are designed specifically for your application and supplied as a turnkey package, fully skid mounted with an integrated control system and performance guarantee.

In-line blending has moved from simple ratio control to 'quality trim' systems that utilise on-line analysers to continuously optimise the cost and quality of blended crude. This is achieved using a combination of measured and/or dynamically calculated flow-weighted quality parameters (based on the feedstock specification). Quality trim blenders utilise these parameters to automatically optimise blends to correct for any variations in feedstock quality or error in blending models. Blended crude can be optimised for or quality parameters such as sulphur, density, TAN for refinery, pipeline or terminal operations or for applications



Mixing and Analyser system

such as pipeline pumping cost reduction (by trimming for optimal pumping viscosity).

Blended crude homogeneity, stability and consistency are key requirements for optimal blending operations. A high energy, high shear JetMix system is used to guarantee crude homogeneity and optimise the representivity and repeatability of any on-line analysers used by the blender.

Blended and feedstock streams can be continuously measured and adjusted to optimize quality and minimise 'give-away' in real time using unique control algorithms.

Jiskoot blenders are guaranteed to deliver a consistent crude dynamically optimized even in the event of changes in feedstock quality, flow rate, loss of power or the unlikely failure of a system component.

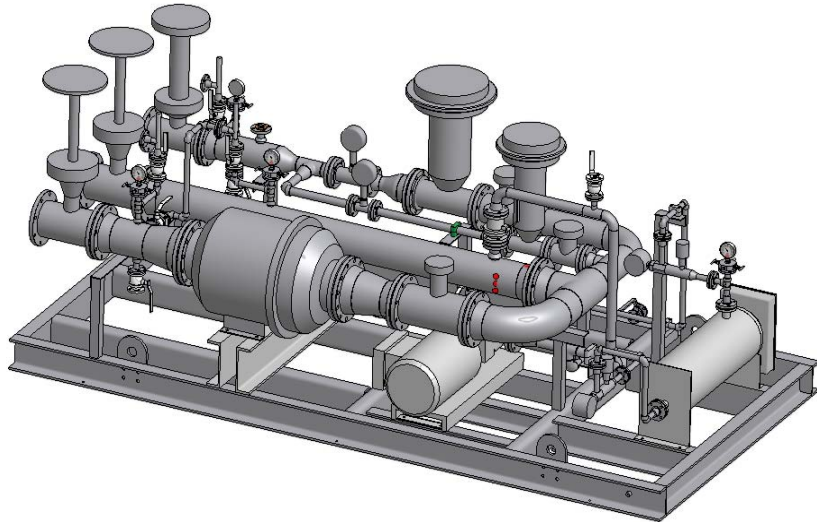
Blenders all have an automated failsafe feature to ensure operation in failure conditions



Crude oil blenders

and are designed with minimal pressure drop to enable optimal throughput at all recipes.

The Jiskoot blender control system uses proven standard real-time software. Blenders can be operated completely stand-alone, for remote locations, or fully integrated as part of a plant DCS system or OMS system as required. All blending data can be fully trended and reported. The control system features full automated and manual recipe management and full security.

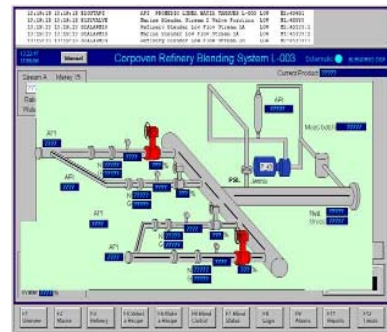


The control system is designed for simplicity and once initiated the blending process is fully automatic, only informing an operator if an alarm condition occurs.

The performance of a crude oil blending system is so much more than the sum of its parts. It is determined by the successful

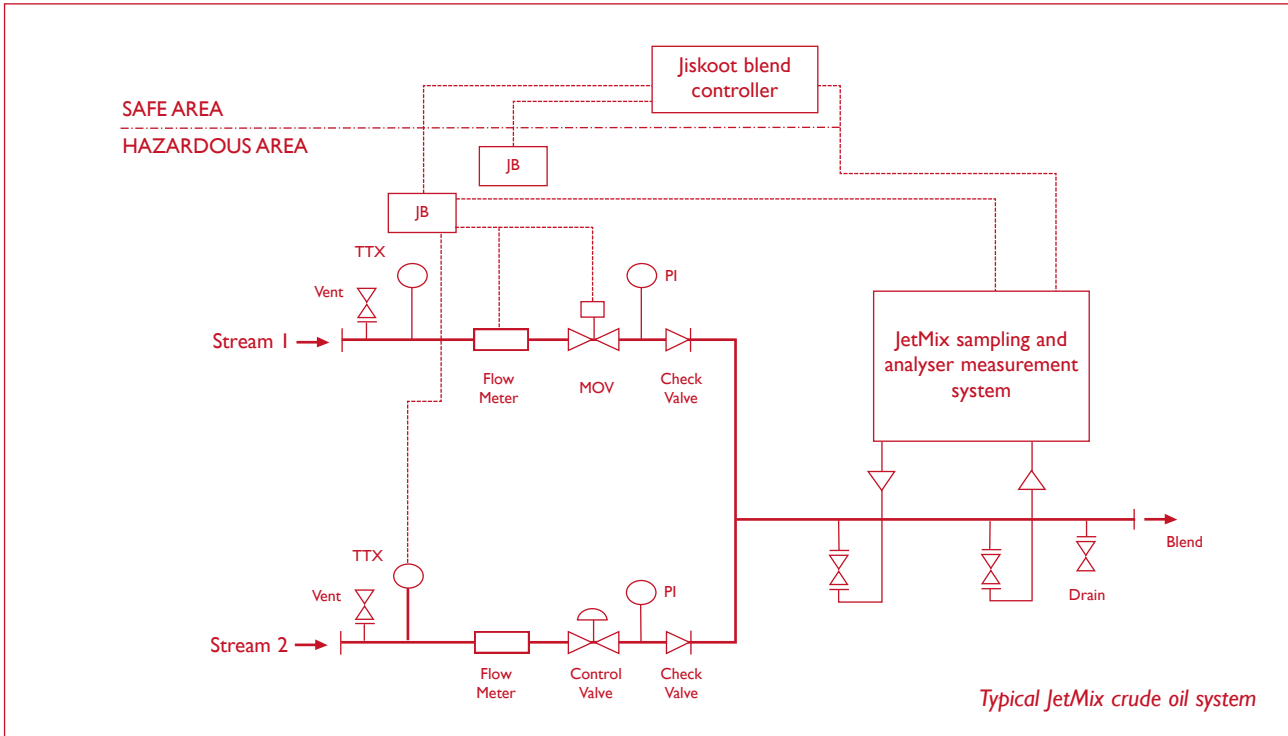
selection and integration of all of the flow measurement, flow control, mixing, analysis and system control components.

Jiskoot offers a range of services to suit your budget, from review of existing equipment and system design through to the supply of an upgrade control or complete blending systems.



Crude oil blender





Features

- Blended crude specification is guaranteed at all times during blending
- JetMix system guarantees homogeneity of final blended crude oil
- Cost and quality of final blend is continuously optimised due to the representivity of analyser measurements
- Blended crude quality can be adjusted or limited by both measured and dynamically flow-weighted calculated quality parameters

- Blended crude oil is on specification at ALL TIMES during the batch
- 'Failsafe' analyser feedback protection built in to the control system
- Extremely low pressure drop enables blender operation at a wide range of flow rates and recipes
- Proven standard blending control software ensures 'right-first-time' project execution
- Fixed installation Features
- Jiskoot expertise ensures selection of the most suitable flow, control, mixing and analysis

technology for each blending application

- Single point of performance guarantee from a specialist with 40 years experience of blender integration and design

Jiskoot offers a complete range of services for crude oil blending and sampling. Please contact us, or our local representative to discuss your needs.



UK
Jiskoot Quality Systems
Tel: +44 (0)1892 518000
Fax: +44 (0)1892 518100

USA
Jiskoot Quality Systems
Tel: +1 281 583 0583
Fax: +1 281 583 0587

Cameron
Measurement Systems
Tel: +1 281 582 9500
Fax: +1 281 582 9599

Jiskoot Quality Systems
A Cameron Company
www.jiskoot.com

www.c-a-m.com/flo

Email: ms-jiskootusales@c-a-m.com Email: ms-jiskootusales@c-a-m.com Email: ms-marketing@c-a-m.com