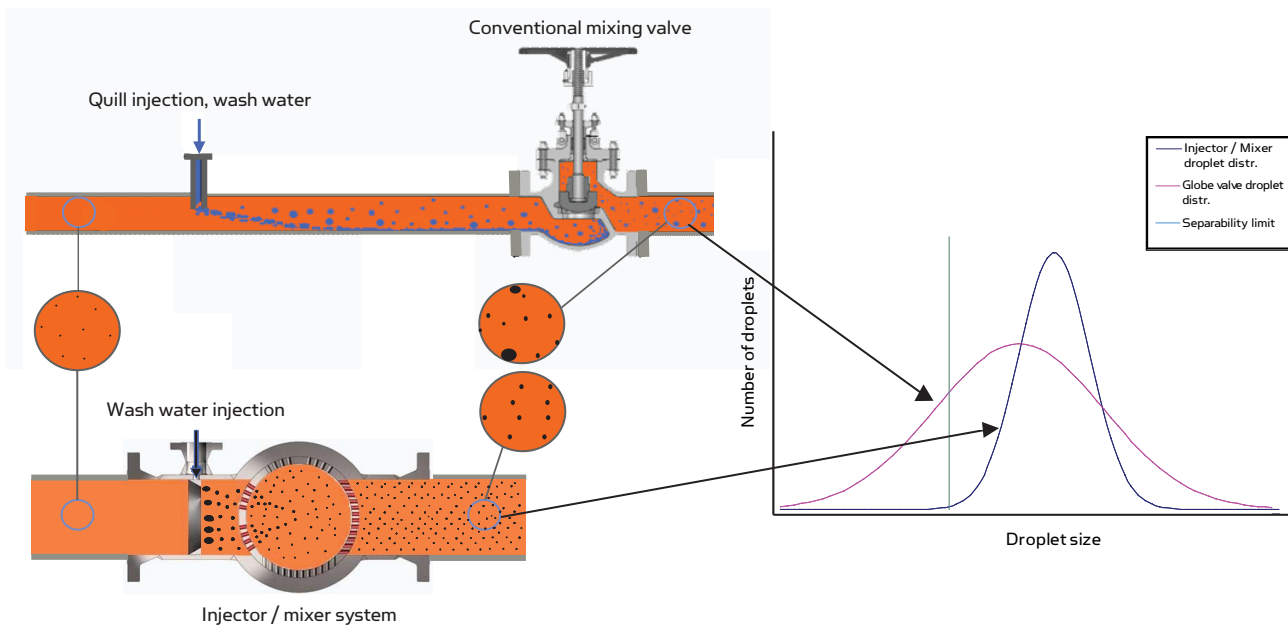


# ProSalt DESALTING SYSTEM

**D**esalting is a crucial step for crude oil downstream refining processes since both the free water and emulsified water contain salt, which can cause corrosion, leading to failure of critical process equipment, i.e., hydrocracker.

## CONVENTIONAL MIXER VS. ProSalt INJECTOR / MIXER SYSTEM



**The graph shows a uniform droplet size distribution at separable droplet sizes and high exposure area while maintaining a low pressure drop.**

The ProSalt system's efficient injection and mixing technology holds the key to effective salt content removal, efficient utilization of wash water and chemicals, and improved crude-water separability.

Besides increased treatment capacity, the technology allows reduced wash water requirements, reduction in oil in water content, and low installation costs and thus high returns on investment.

ProSalt is a robust, flanged spool piece that replaces the conventional static mixer and mixing valve with a novel inline injection/mixer assembly. This assembly requires

minimum maintenance, has a high turndown ratio, and provides unobstructed flow conditions while performing efficient mixing of various production chemicals and / or dilution water used in desalting.

The injector / mixer system generates a homogeneous phase flow over the pipe cross-section in combination with a pressure drop that is lower than conventional mixing methods, while controlling shear forces. This achieves an improved oil-water separation, with less emulsion.

## IMPROVED PERFORMANCE AT INSTALLATION SITES

ProSalt Mixer Systems are in operation at several locations, such as Saudi Aramco (16" ProSalt, 2007 onwards) and StatoilHydro (14" ProSalt, 2006 onwards). At both sites the units have shown an improved performance with respect to a lower pressure drop, reduced fresh water consumption required and less oil-in-water at the separator outlet. Lower operational expenditures were verified, especially those related to pressure drop (40-70 %), fresh water consumption (20-40 %) and oil entrained with the separated water. Other process improvements such as reduction in demulsifier consumption, less



retention time in the separator and increased crude desalting capacity are clear potentials currently under systematic review.

## BENEFITS

- Reduced pressure drop (40-70%)
- Reduced wash-water consumption (20-40%)
- Improved oil-water separation
- Reduced residence time in coalescer / separator
- High turndown ratio
- Easy process modification - low installation cost and high return on investment
- Reduced chemical consumption
- Flanged unit, no operator involvement requirement
- Maintenance-free

## REFERENCES

Available upon request.

## FOR MORE INFORMATION

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