

Webinar Q&A

An introduction to catalyst and additive addition systems

Q 01. If we purchased a loader what is the expected lead time?

A 01. Lead time is typically 1 year.

Q 02. What are the minimum and maximum addition rates for JM loaders?

A 02. Minimum and maximum rates will vary by the type/design of the loader but can be as low as 20 lbs/day (9 kg/day) and as high as 40 TPD.

Q 03. Are there any limitations on the placement/location of the loader regarding distance(s) from the regenerator?

A 03. In general, the loader should be located as closely to the regenerator as possible. If refilling from totes the loader must be located such that the totes can be placed within 15 ft (4.5 M) of the loader. With auto-reload systems from hopper the loader is normally placed as close to the fresh catalyst hopper as possible to minimize refill times. Line lengths and turns/change of directions should be minimized. JM recommends that the actual placement of the loader be reviewed on a case- by-case basis. As a general rule of thumb JM would recommend that the discharge line length not to exceed 300 ft.

Q 04. You state that the loaders are reliable. Can you tell us what the typical maintenance issues are for the loader?

A 04. Typically, there are very few maintenance issues with the loaders. For most loader designs the Everlasting Valve(s) is the only moving part that routinely comes in contact with catalyst. This valve normally has a life expectancy of over 5 years. Flex hoses in the catalyst discharge line normally last 10+ years but the life of the hoses is highly dependent on the carrier air rate being set correctly. Load cell life is normally 10+ years. IMS controller components are normally 10+ years as well.

Q 05. You state that the loaders can be controlled from the refinery DCS system. What options are available for DCS connection?

A 05. There are multiple options for DCS connection/communication. These are Analog Input and Output, Digital Input and Output, and MODBUS RTU or TCP.

Q 06. Are there any operational pitfalls/mistakes commonly seen with the operation of the JM INTERCAT loaders?

A 06. The most common mistake operators make is in setting the pressure balance. To be more specific it is the setting of the carrier air rate that causes most operating/mechanical failure issues. The carrier air setting is like Goldilocks in that it needs to be just right. Not enough and the catalyst will not flow. Too much will result in high velocities and eventually mechanical failure of either the flex hose or the downstream pipe.

Q 07. How does your CO promoter loader work exactly? I mean I assume that the loader requires manual refilling, or can this be installed with an auto refill feature?

A 07. The CO promoter loader is designed for a tote to set on top of the loader frame/housing. The tote is connected to the vessel via loading hoses/valves and the vessel is auto refilled from this tote. When the tote is emptied it is removed and replaced with a full tote.

Q 08. How do your catalyst/additive loaders perform relative to shot pot loaders?

A 08. Shot pot loaders usually require very high maintenance, bellows, hoses and valves tend to fail often. Their accuracy is poor at best and is normally atrocious. A JM **INTERCAT™** loader will alleviate the maintenance issues and improve the accuracy and reliability dramatically.

Q 09. Is there any system to keep the pipe from fully filled? Is it often the pipe gets filled entirely due to some malfunction or error?

A 09. If the pipe fills with catalyst the pressure balance is not set correctly. If the pressure balance is set correctly the discharge line should never fully fill with catalyst. Plugging occurs when insufficient carrier air is being supplied to the discharge line. As long as sufficient carrier is supplied the line will not plug but remember too much carrier air will cause erosion issues.

Q 10. What is relative percentage of users that utilize AIM? What protections are in place related to cybersecurity concerns?

A 10. AIM TECHNOLOGY™ is used on approximately 20-25% of JM loaders. The cybersecurity implementations are substantial and are explained in a detailed document that can be provided upon request. The **AIM TECHNOLOGY** system was designed for North America and Europe and will soon be implemented globally.

We at JM would like to thank you for participating in this webinar