

Jet Pump (Eductor/Ejector)

Increasing Production and Well Sustainability

APPLICATIONS

- Improve gas production in low pressure fields
- Boost gas delivery pressure
- Lower separator pressure
- De-bottleneck compressor
- Replace compressor stage
- Minimise production back-out

FEATURES

- No moving parts, minimal maintenance and control
- Uses available energy sources, such as high pressure wells, and compressors on recycle

BENEFITS

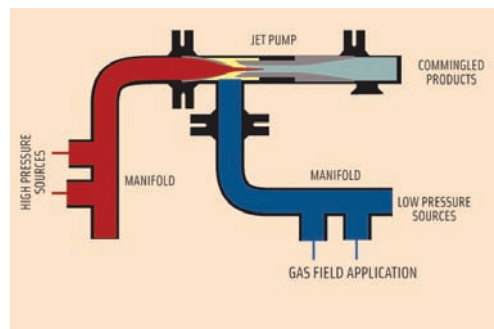
- Increase production typically 10%-40%
- Extend the operating life of low pressure assets, increase recoverable reserves
- Fast deployment, 'quick wins'



- Increase production: typical production increase is 10%-40%; using available energy sources.
- Restore liquid loaded or dead wells back into production.
- Preventing high pressure wells backing out low pressure wells: HP source harnessed to increase production from LP wells.
- De-bottleneck compressors, allowing them to run at a higher intake pressure, increasing capacity and operating efficiency.

Caltec is a world leader in the design and manufacture of jet pumps (also known as eductors and ejectors) in the oil and gas industry, with a 100% world-wide success rate over many years.

Jet pumps use a high pressure source to create a low pressure zone where other (low pressure) fluids can be drawn in and mixed; the combined flow is then discharged at an intermediate pressure.



As a passive device, with no moving parts, the jet pump needs very little maintenance or control, yet it is very effective at harnessing existing energy sources, such as a compressor on recycle, or a high pressure well, to boost the production rate and/or delivery pressure of low pressure wells.

Examples of successful applications include:

- Recovery of otherwise stranded remote gas reserves
- Replacement of a whole compressor stage
- Increasing the arrival pressure and volume of gas on platforms
- Lowering separator pressure, increasing multi-phase production.
- Capture of flare gas using high pressure gas, or high pressure fluids

Caltec jet pumps are an excellent "quick win" option and are available for rapid deployment. Caltec will also make the units available on a short-term basis, as appropriate, and can custom-design units for specific applications.

Caltec Gas Jet Pump Skid Specification Data Sheet		
Equipment Name	6" Jet Pump Skid	10" Jet Pump Skid
	Jp-6	Jp-10
Model Number	CAL6JP1XXXR	CAL10JP1XXXR
Mechanical Design		
Piping Design Code	ASME B31.3	ASME B31.3
Skid Design Code	DNV 2.7-1	DNV 2.7-1
Pressure Rating	ANSI 1500#	ANSI 1500#
Design Pressure	241.1 barg	237.5 barg
Maximum Operating Pressure	217 barg	214 barg
Design Temperature	-46 to +75 °C	-46 to +75 °C
Maximum Operating Temperature	70 °C	70 °C
Material	LTCS (NACE)	LTCS (NACE)
Corrosion Allowance	2 mm	2 mm
Paint Spec	Offshore paint spec	Offshore paint spec
PED	CE Marking	CE Marking
Skid Dimensions		
Connections:		
Motive (HP) Inlet	3" RTJ, Sch 160	6" RTJ, Sch 160
Suction (LP) Inlet	4" RTJ, Sch 160	8" RTJ, Sch 160
Discharge	6" RTJ, Sch 160	10" RTJ, Sch 160
Dimensions (mm)	3040 x 1000 x 1700	3040 x 1400 x 2250
Weight (kg)	2050	3000
Orientation	Horizontal	Horizontal
Flow Ranges		
Pressure:		
Motive (HP) Inlet	70-140 bara*	70-140 bara*
Suction (LP) Inlet	2-40 bara*	2-40 bara*
Discharge	(up to 300% of LP pressure)*	(up to 300% of LP pressure)*
Flowrate:		
Motive (HP) Inlet	up to 40 MMscfd*	up to 80 MMscfd*
Suction (LP) Inlet	up to 10 MMscfd*	up to 55 MMscfd*
Discharge	(HP + LP flowrate)*	(HP + LP flowrate)*
Gas Volume Fraction (GVF)	> 98%	> 98%
Temperature	0 - 70 °C	0 - 70 °C
Molecular Weight	16 - 35	16 - 35
Cp/Cv Value	1.1 - 1.7	1.1 - 1.7
Solid Content	≤ 0.1 lb per MMscfd ≤ 10 lb per 1000 bbls	≤ 0.1 lb per MMscfd ≤ 10 lb per 1000 bbls
Particle Sizes Range	< 500 micron	< 500 micron
* Typical range. Please contact Caltec with project specific data		Rev 1B