



**SPRAYING  
PUMPING  
FILTERING  
AND VALVES**

JJ TECH jet pump solutions and Wanner Hydra-Cell® PRO state-of-the-art seal-less surface pump can optimize your oil and gas production and lower operating costs over the lifetime of your wells.



# HYDRAULIC **JET** PUMPS

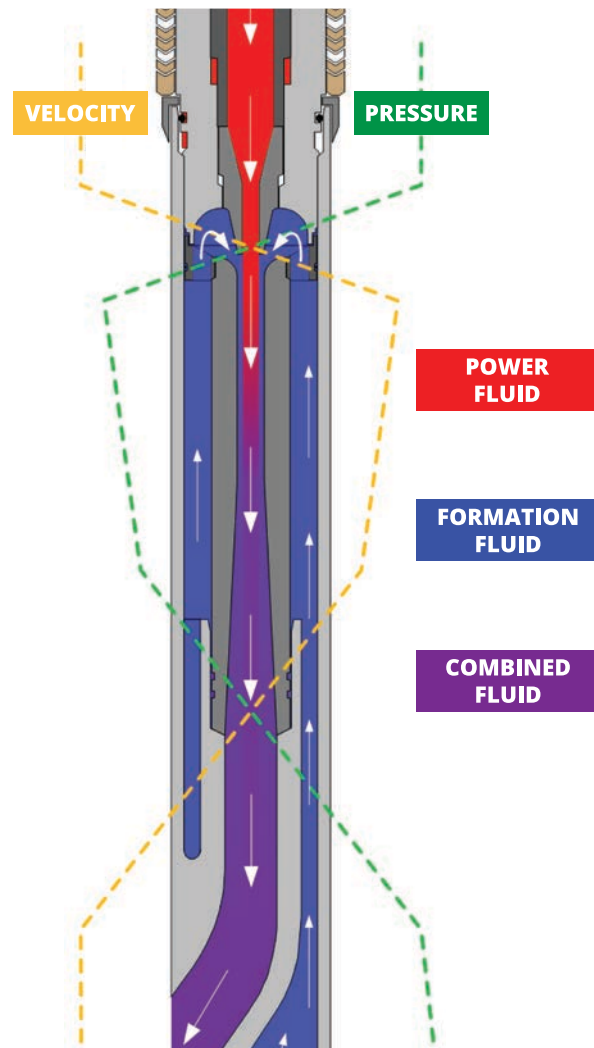
ARTIFICIAL LIFT SOLUTION

# ARTIFICIAL LIFT SYSTEMS

## JET PUMP TECHNOLOGY

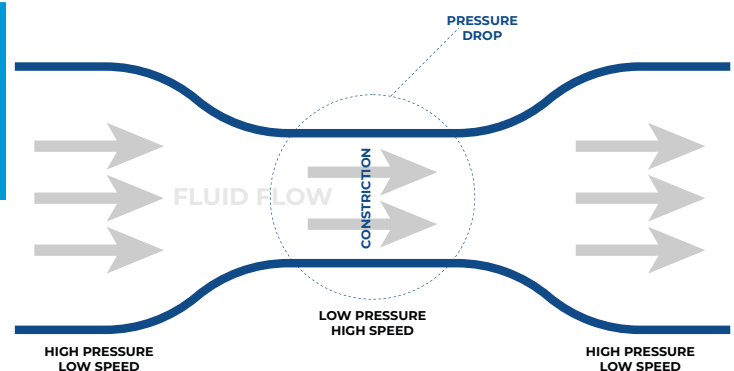
### How the Jet Pump Artificial Lift Works

The jet pump works by using the momentum of one fluid to propel another fluid. All jet pumps in the oil and gas industry operate using the same principles. **Power fluid**, which is produced water or oil, is pumped from the surface at a given flowrate and pressure into the wellhead, down the tubing to the jet pump. This high-pressure liquid is then directed through the nozzle. The resulting pressure drop (**Venturi Effect**) across the nozzle allows for **formation fluid** (oil or gas zone) to enter the jet pump (intake) and combine with the power fluid in the mixing tube (throat). The **combined fluids** pass through the diffuser, where the velocity of the fluid reduces as the pressure increases enough to power the fluid to the surface. This pressure drop allows well fluids to flow from the reservoir at the desired production rate into the wellbore and jet.



## VENTURI EFFECT

The Venturi effect is the reduction in fluid pressure (Pressure Drop) that results when a fluid flows through a constricted section of pipe.



# HYDRAULIC JET PUMPS

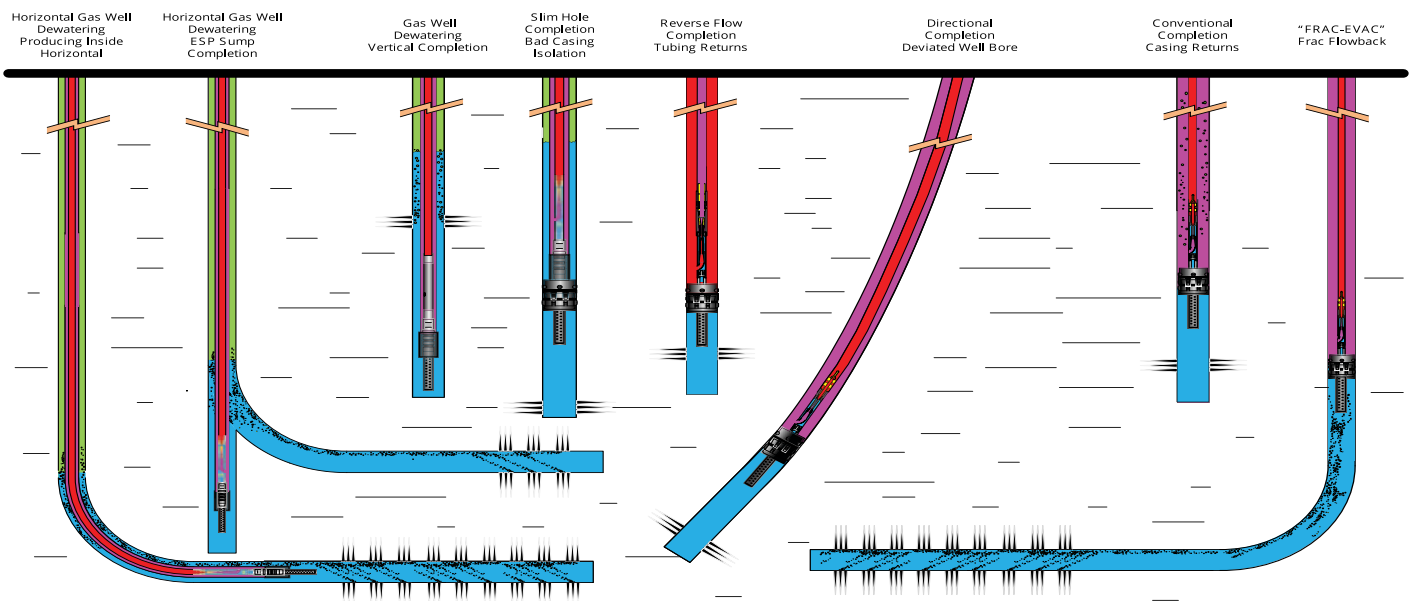
## VERSATILITY

### Comparing the Benefits of Jet Pumps to Other Artificial Lift Technologies

Operating Conditions	Reciprocating Rod Lift	Electric Submersible Pumps	Gas Lift	Progressive Cavity Pumps	Jet Pump
Sand	★★★	★★★	★★★★	★★★	★★★★★
Paraffin	★★	★★★★★	★★★	★★	★★★★★
High GOR	★★★	★★★	★★★★★	★★	★★★★★
Crooked Hole	★★	★★★	★★★★	★★	★★★★★
Corrosion	★★★★	★★★	★★★	★★★★	★★★★★
High Volume	★★	★★★★★	★★★★	★★	★★★★
Depth	★★★	★★★	★★★	★★★	★★★★★
Scale	★★★★★	★★	★★★	★★★	★★★★★
Flexibility Volume	★★★	★★	★★★	★★★	★★★★★

### Subsurface Configurations

The versatility of the Jet Pump Artificial Lift can help produce in many types of subsurface situations.



# HYDRAULIC JET PUMPING

## JJ TECH JET PUMPS

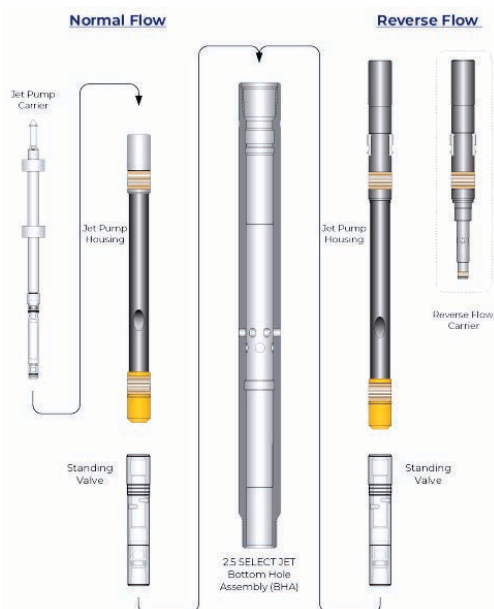
### Jet Pump Range for Production Rates of 10 BPD to 10K BPD

- Slim hole with concentric strings of tubing
- Deviated and horizontal wells
- Wells with high GLR/GOR
- Crude oil production above 6 to 7 API (using heated power fluid)
- Bad casing
- Gas well dewatering
- CBM well dewatering
- High water cut wells
- Sliding sleeve/cavity pump for 2-3/8", 3-1/2" and 4-1/2" tubing
- Frac flowbacks



### Easy Retrieval of the Jet Pump in Forward or Reverse Flow Mode

When produced well fluid should be kept away from the casing, the jet pump is used in the reverse flow configuration and can still be retrieved without a slick line or workover rig.



### Jet Pump Materials of Construction

Materials of construction are chosen to ensure very long life even in the harshest of well environments. Premium Materials include : Inconel 625; Hastelloy X; 316 SS; 420 SS (Boron Carbide Clad).

### Jet Pump Customization

The ability to supply custom profiles to fit customers existing completions enables lower cost of implementation and greater ease to switch from other forms of artificial lift.

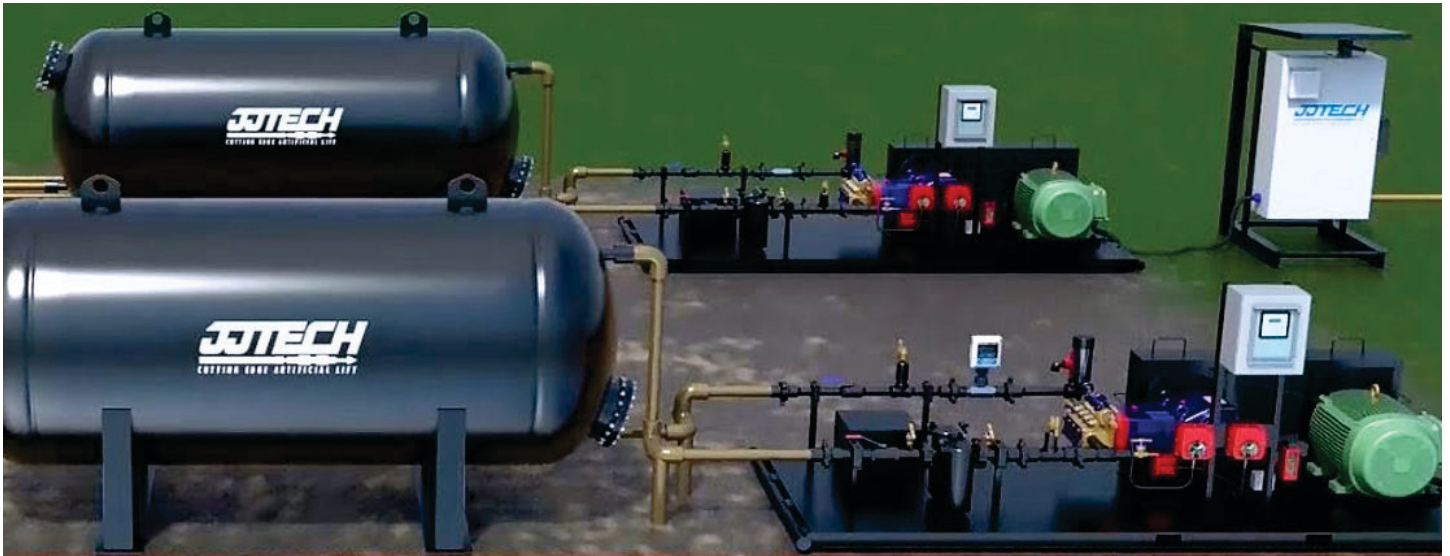
### Extensive Stock

The simplicity of the jet pump means that stock parts are easily put in place and readily available.

# SURFACE PUMPING

## HYDRA-CELL PRO PUMPS

Wanner Hydra-Cell PRO Seal-less Diaphragm Pumps to API 674 and API 675 Standards



**HYDRA-CELL  
T-100 SERIES**  
Low, Medium & High Pressure  
**100 HP**



**HYDRA-CELL  
Q-155 SERIES**  
Low & Medium Pressure  
**155 HP**

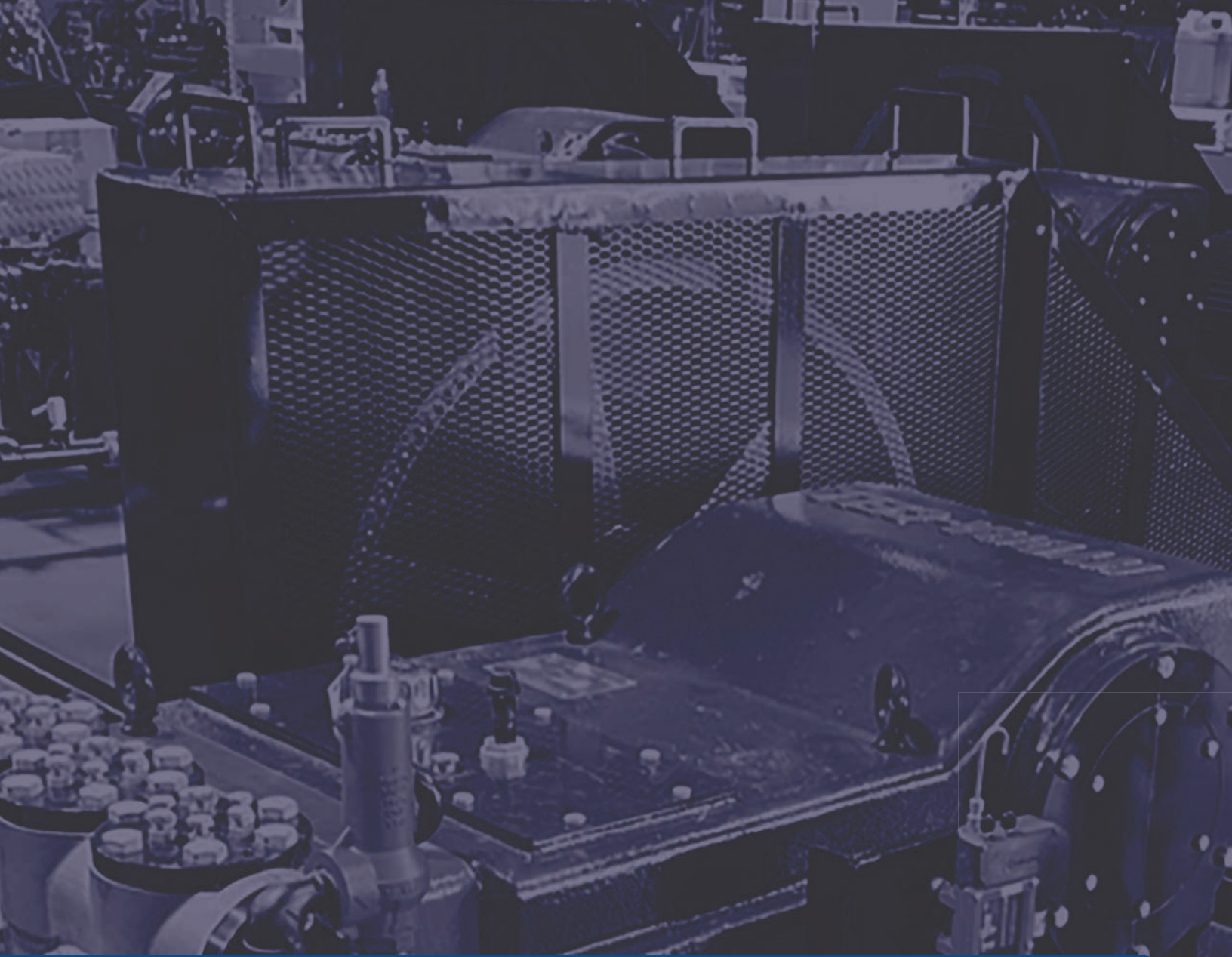


**HYDRA-CELL  
T-200 SERIES**  
Medium & High Pressure  
**200 HP**



**HYDRA-CELL  
Q-330 SERIES**  
Low, Medium & High Pressure  
**330 HP**

- Flow rate controllable to API 675 performance standards to provide ultimate optimization of Jet Pump production.
- Patented diaphragm position control protects the diaphragm under suction vacuum conditions, such as a blocked suction line.
- The hydraulically balanced diaphragms handle high pressures with little stress.
- Can dry lift, prime and run dry indefinitely
- Hydra-Cell's seal-less design, eliminates wear and failure risks. Their oil-submerged plungers require no external lubrication, reducing maintenance costs and extending lifespan, making them more cost-effective and durable than traditional packed plunger pumps.
- Available in many materials to fit your application and to ensure maximum pump life even in a challenging environment.



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**Artificial Lift Solutions**

