



**GEKKO**  
SYSTEMS

# INLINE PRESSURE JIG

SIGNIFICANT ADVANTAGES HAVE BEEN ACHIEVED IN GRINDING  
**THE NEW BEST IN GRAVITY SEPARATION**  
RECOVERED FOR PREFERENTIAL TREATMENT PRIOR TO OVER GRINDING.



# INLINE PRESSURE JIG



MINERAL PROCESSING TECHNOLOGY



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GEKKO SYSTEMS specialises in the design and development of mineral processing equipment with particular emphasis on gravity separation.

The company's motto "from challenge comes innovation" reflects our focus on pro-active and progressive solutions.

## APPLICATIONS

The InLine Pressure Jig (IPJ) is a high yield, high recovery gravity separation device. It has been successfully installed in both alluvial and hard rock applications. Significant advantages have been achieved in grinding circuits where coarse heavy minerals or waste material have been recovered for preferential treatment prior to over grinding. The IPJ is currently being operated worldwide to recover free gold, sulphides, native copper, native silver, tin/tantalum, diamonds and garnet. Installations are also planned for coal, lead remediation, magnetite, mineral sands and iron ore recovery.

Typically units are installed in the recirculating load with IPJ feed consisting of up to 14mm mill discharge or cyclone underflow. InLine Pressure Jig's are also installed in alluvial operations as primary and secondary recovery units.

## THEORY OF OPERATION

The InLine Pressure Jig is unique in its design and use of jiggling concepts. The unit is fully encapsulated and pressurised, and combines a circular bed with a moveable sieve action. The encapsulation allows the IPJ to be completely filled with slurry and water. As a result, slurry velocity is slowed and water surface tension eliminated improving recovery potential. The screen is pulsed vertically by a hydraulically driven shaft. Length of stroke and speed of up and down stroke can be varied to suit the application. Screen aperture and ragging dimension and material can also be altered for the application.

Separation of mineral, gem and ore particles occurs based on relative density as well as particle size and shape. High specific gravity particles are drawn into the concentrate hutch during the suction stroke of the bed and are continuously discharged. The lighter gangue is discharged over the tailboard to the outer cone. Both concentrates and tailings are discharged under pressure.

## ADVANTAGES

**Low water consumption:** The IPJ's low impact on water balance allows grinding circuit operators to treat the full recirculating load and maximise the gravity recovery of minerals, gems or waster materials.

**High yield, high recovery:** As a continuous concentrate discharge unit, the IPJ offers a high degree of flexibility. Mass pull to concentrate can be varied from 0.5% up to 30% to optimise performance for a particular application.

**Minimise grinding requirements:** By recovering minerals or gems at their coarsest fraction, the potential to recover by gravity is improved and over grinding of minerals minimised.

**Wide feed and particle size recovery:** Feed sizing of up to 30mm is acceptable.

In many circumstances this may eliminate the requirement for an additional screening step.

**Easy retrofit:** Given the pressurised nature of the IPJ, the unit can be easily retro-fitted at ground level if desired. Tailings will return to mill discharge without the need for additional pumping.

**Cost savings:** The design of the InLine Pressure Jig is very efficient for the volume treated.

As a result, capital and operating cost savings can be significant.

SPECIFICATIONS			
Model	600	1500	2400
Max.Capacity (tph)	2	50	100
Max. Feed Size (mm)	6	30	30
Conc. (tph solids)	0.03 - 0.6	0.3 - 10	1 - 20
Installed Power (kW)	1.5	1.5	2.2
Max. Op. Pressure (kPa)	180	200	200
Hutch Water (l/s)	0.1 - 0.5	2 - 10	6 - 15
Dry Weight (kg) approx.	200	1900	3800

Note: The manufacturer reserves the right to change design specifications without notification at any time.