



# STATS GROUP

Managing Pressure, Minimising Risk

## Caisson Handling Internal and External Lifting Tools

STATS Group provide a range of caisson handling equipment for safely securing and recovering damaged or redundant caissons. Internal and External Lifting Tools cover a range of sizes to allow for safe and controlled caisson removal.

Due to their harsh environment, caissons can experience severe external corrosion at the waterline and galvanic corrosion / erosion at the pump string location. This can result in a lack



of integrity, and occasionally result in part, or all, of the caisson becoming detached and lost to the seabed. Should a caisson become detached this would pose a serious safety concern for a platform and risk damage to subsea pipelines and equipment, impacting on production and reputation.

Internal and External Lifting Tools (ILT / ELT) are used to safely secure damaged or corroded caissons in position, until a planned retrieval back to the platform can be performed using the same tool. The compact size of the ELT and modular design of the ILT allows caissons to be recovered where space is limited. Caissons are securely lifted and cut into manageable sections before being safely removed from the platform.

ILT and ELT are available in common pipe sizes from 24" to 48", with a safe working load up to 55 tonnes.

## External Lifting Tool (ELT)

External Lifting Tools (ELT) are mounted to the outside of the caisson to provide secure lifting when internal access is obstructed or restricted due to pump strings or liners. The split section design allows easy installation, particularly in areas with restricted access or height. External gripping locks are hydraulically activated applying vertical load to the ELT which is set against the caisson.



## Internal Lifting Tool (ILT)

Internal Lifting Tools (ILT) feature a twin module design, with each module containing its own set of independently controlled locks allowing operation in caissons with varying wall thicknesses. The taper-lock design provides a fail-safe locking system independent of hydraulic pressure, both sets of locks provide axial and lateral stabilisation within the caisson. The modular design of the ILT allows the length between lock modules to be configured to client requirements, this also allows for easy installation particularly in areas of restricted access.





# STATS GROUP

Managing Pressure, Minimising Risk

## Lifting Tool Locking Features

ILT and ELT taper-locks are hydraulically actuated applying vertical load to the locks set against the caisson. ELT's feature an array of hydraulic cylinders that are piped with two independently actuated hydraulic circuits. This arrangement has been engineered to allow four of the locks to be actuated via one hydraulic circuit and the remaining four locks to be actuated via the second hydraulic circuit. If the integrity of a hydraulic circuit was lost this contingency system would ensure 50% of the locks remained in their fully set condition with full communication. The tools are designed and tested to prove 50% lock engagement is sufficient for the tool to take its design load of 55 Tonne. The taper-lock design provides a fail-safe locking system independent of hydraulic pressure, once pre-tension is applied to the lifting tool the hydraulic actuation circuit becomes redundant. The lock engagement range allows lifting tools to be simply modified for use with a range of caisson sizes.

## Key Features

- Available in common pipe sizes from 24" to 48"
- Safe Working Load up to 55 tonnes
- Lifting tools retain caissons securely until planned repair or replacement
- Safe and controlled system for removing damaged or redundant caissons
- No production shutdown required during the removal operation
- Hydraulically actuated taper-locks grip wall of caisson
- ELT locks actuated with two independently hydraulic circuits
- Taper-lock design provides a fail-safe locking system independent of hydraulic pressure
- Designed and tested to prove 50% lock engagement is sufficient for the tool to hold maximum 55 tonne design load.
- Tension cable supplies self-energisation effect when pre-tension is applied
- Once pre-tension is applied to support rigging, hydraulic actuation circuit is redundant
- Tool removed by releasing tension and hydraulically de-activating locks



[STATSGROUP.COM](http://STATSGROUP.COM)