



SUBSEA

Umbilical Reeler Equipment

TIS Umbilical Arch Sheaves



TIS Manufacturing | Subsea | Umbilical Arch Sheaves

TIS Umbilical Arch Sheaves are specifically designed for operation with bespoke manufactured TIS Umbilical Reelers as part of a complete Intervention Workover Control System (IWOCs).

Units are custom manufactured to accommodate the required umbilical product and deployment arrangement during well intervention operations.

Typical features can include:

- ▶ Large Diameter Nylon Rollers to prevent umbilical damage
- ▶ Anti Static Roller Material to eliminate risk of static ignition
- ▶ Spring Loaded Fixtures to allow quick release of the umbilical
- ▶ Lift Point Hinge Section to allow for umbilical to be fitted or removed while suspended
- ▶ Integral Fall Arrestor Securing Pin Assembly
- ▶ Designed to DNV 2.22 lifting standards
- ▶ Goose Neck Sheaves with Riser Clamp Assembly for securing arch sheave to riser
- ▶ Guy Line Fixture Points for stability



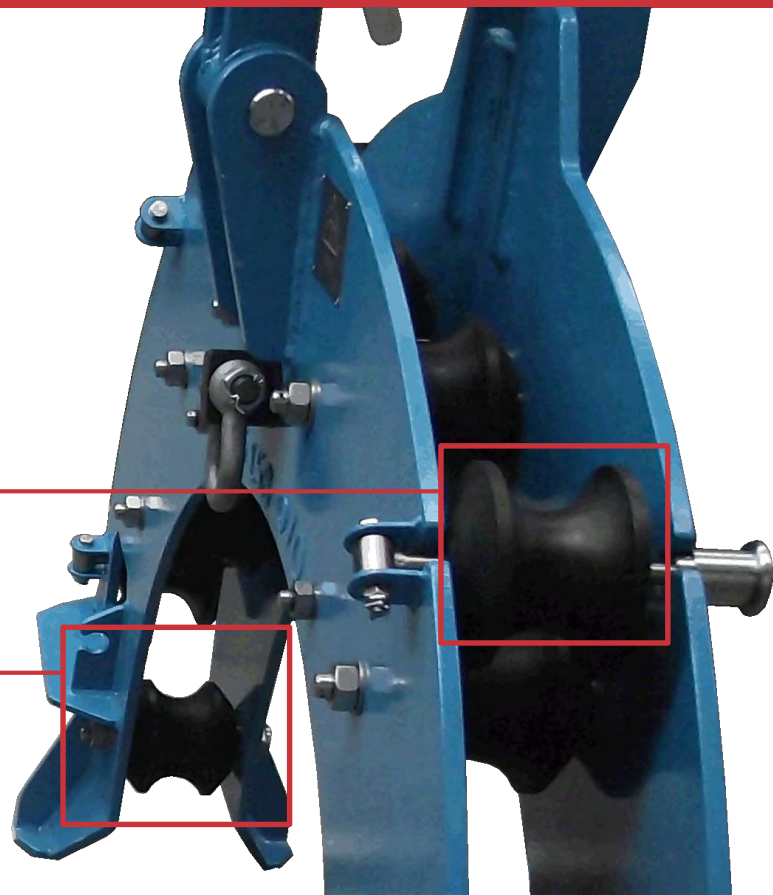
Umbilical Arch Sheaves | Nylon Rollers

Large Diameter Nylon Rollers are designed in profile to the shape of the umbilical for maximum support and to prevent any crushing effect on the inner lines.

Optional **Anti-Static Nylon Rollers** are available as an added safety measure to eliminate the risk of static ignition in zoned operational areas.

The lower load bearing rollers are fitted with ball bearing cartridges and grease nipples to keep the shafts lubricated during operation.

ANTI-STATIC NYLON ROLLERS



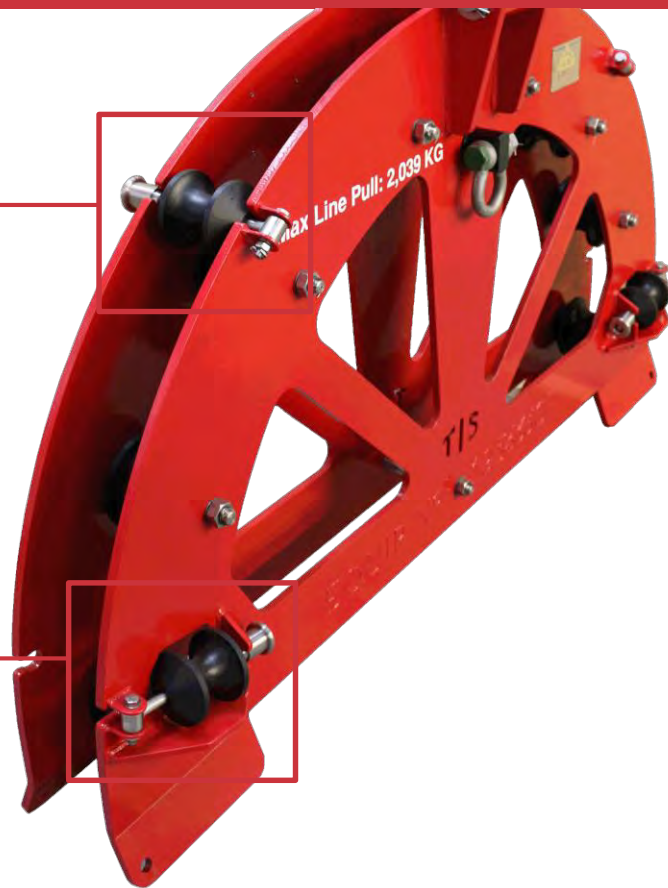
Umbilical Arch Sheaves | Spring Loaded Roller Fixtures

The upper rollers are fitted with **Spring Loaded Fixtures** to provide quick release of the umbilical for access purposes or to facilitate a different deployment arrangement.

These fixtures are manually operated and can also feature a tie-back option to be fixed in the open position during operation, should the upper rollers not be required.

SPRING LOADED FIXTURES IN
CLOSED POSITION

SPRING LOADED FIXTURES IN
OPEN POSITION

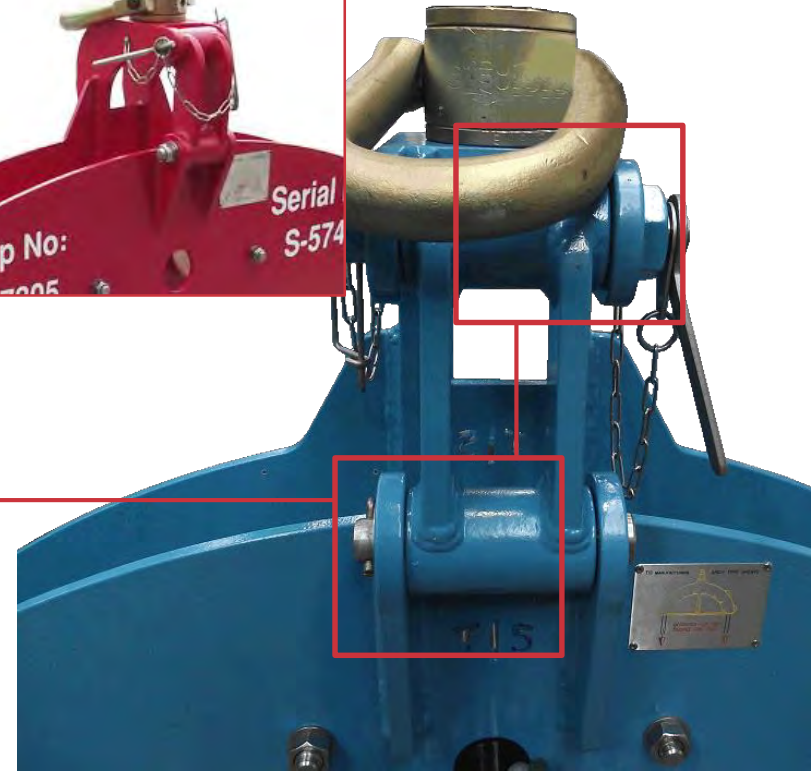


Umbilical Arch Sheaves | Lift Point Hinge Section

A **Lift Point Hinge Section** is designed to allow for the umbilical to be fitted or removed from the arch sheave while it is suspended.

This facility primarily acts as a time saving action when switching between multiple umbilical products or inspecting an umbilical product.

LIFT POINT HINGE SECTION



Umbilical Arch Sheaves | Fall Arrestor

An **Integral Fall Arrestor Securing Pin Assembly** is designed as an additional safety feature to provide a reserve point of suspension for the Arch Sheave, should the primary lifting point fail.

This preventative measure ensures less risk of injury to personnel and damage to the umbilical and equipment in the surrounding area during operation.

**INTEGRAL FALL ARRESTOR
SECURING PIN ASSEMBLY**



Umbilical Gooseneck Sheaves | Riser Clamp Assembly

Riser Clamp Assemblies are designed to secure an arch sheave to an intervention riser system for specific deployment arrangements of an umbilical during well intervention operations.

This alternative suspension facility allows for an umbilical running parallel to the riser to be fed away safely into a bespoke arrangement as required.

A **Pivot Fixture System** allows the Gooseneck Sheave to be rotated around the riser to multiple positions.

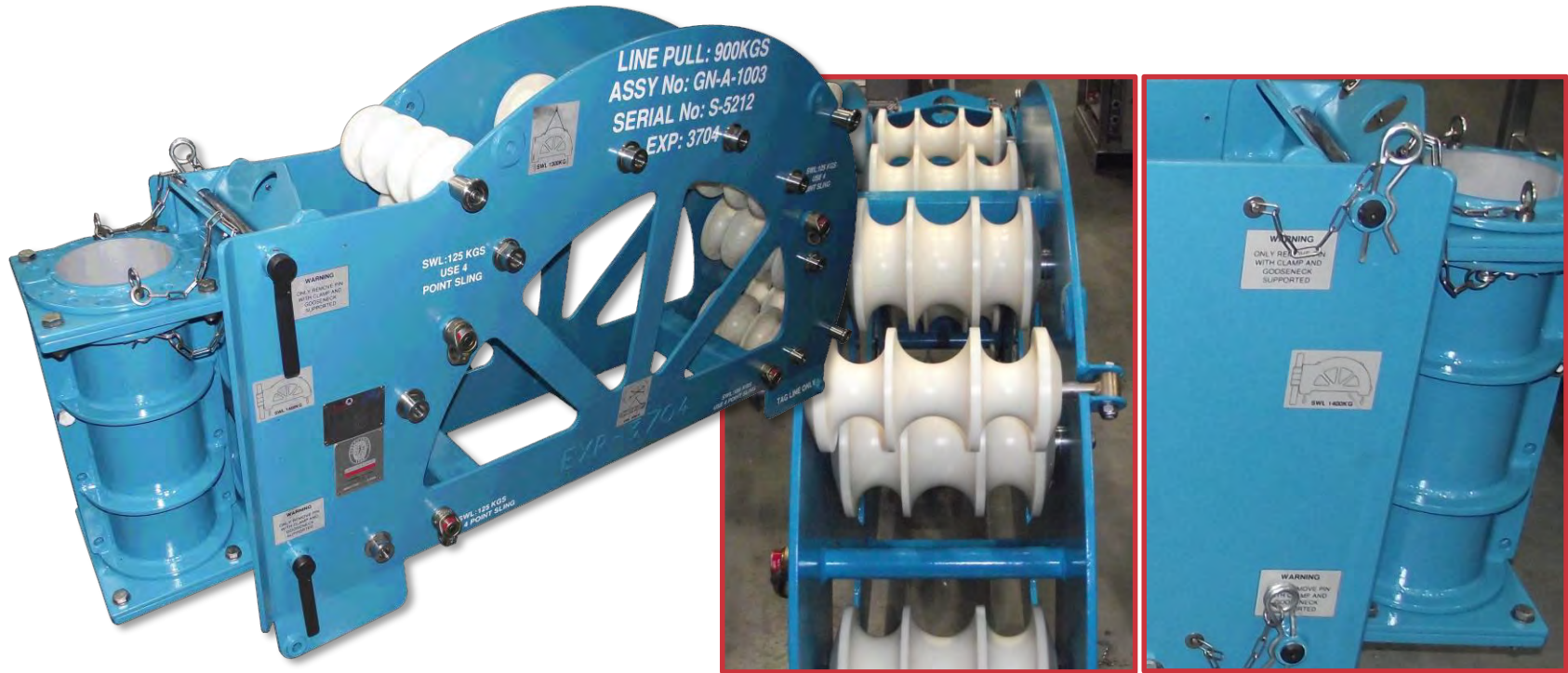
Quick Release Pins provide the facility to detach the sheave from the riser for the umbilical to be fitted or removed.

PIVOT FIXTURE SYSTEM

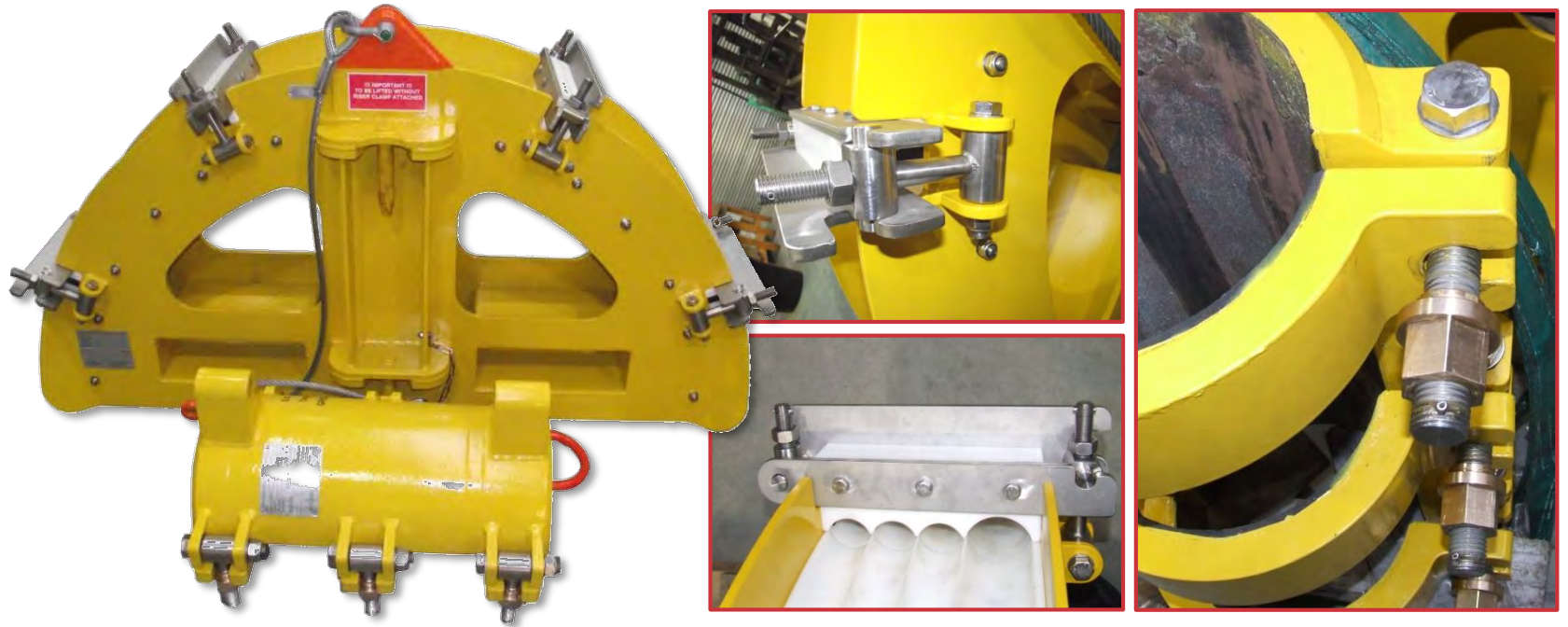
QUICK RELEASE PINS



Umbilical Gooseneck Sheaves | Equipment Deliveries



Umbilical Gooseneck Sheaves | Equipment Deliveries



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