

DESIGNED FOR HIGHER RELIABILITY
IN EXTREME WORKING CONDITIONS

SALi

SOLUTIONS FOR GREATER
FLEXIBILITY OF APPLICATION

■ IMMERSION
CAPABILITY

■ FREE FALL

■ THERMAL SHOCK
RESISTANCE

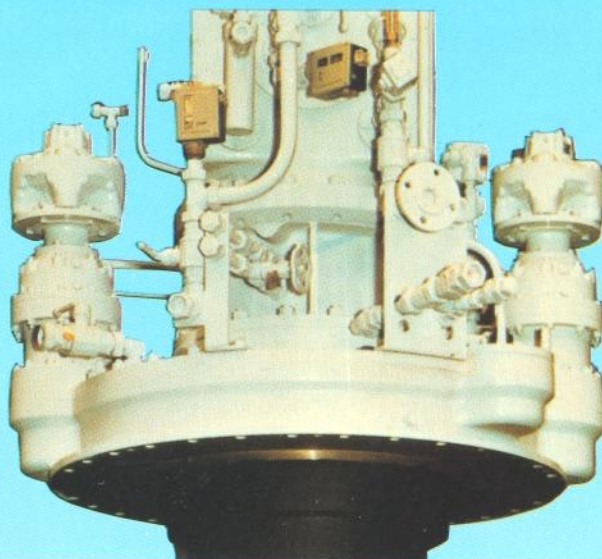
■ CAVITATION RESISTANCE

■ 20 bar CASE PRESSURE

■ FREEWHEELING

■ 250 bar BACK-PRESSURE

■ HIGH SPEED



MARINE APPLICATIONS

■ CONTAMINATION RESISTANCE

■ LOW SPEED OPERATION

■ MOORING CAPABILITY

■ MULTI-SPEED OPERATION



CRANKSHAFT DESIGN
RADIAL PISTON MOTORS

SAI s.p.a. HYDRAULIC MOTORS FOR

NET WINCHES

ANCHOR WINCHES

CAPSTAN DRIVES

HOLD COVER WINCHES

THRUSTER STEERING DRIVES

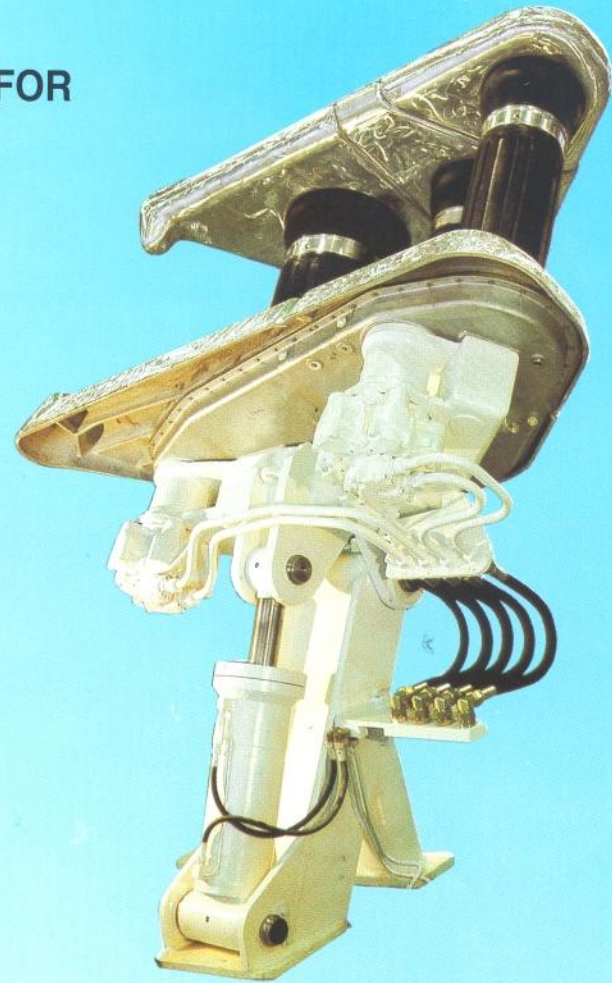
RUDDER STEERING DRIVES

PROPELLER DRIVES

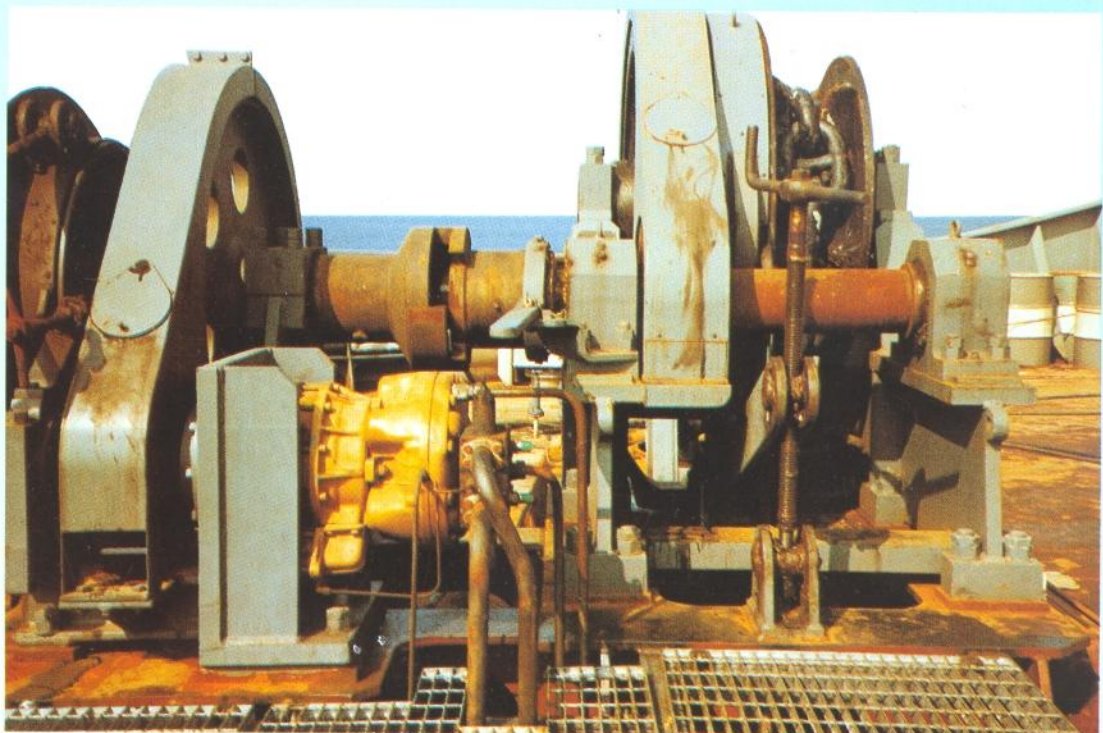
FISH PUMPS

FISH PRESSES

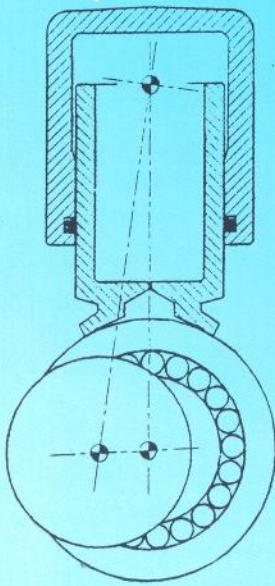
AS FLOW DIVIDERS FOR SYNCHRONISED CYLINDERS



NET HOLING WINCH



WINCH



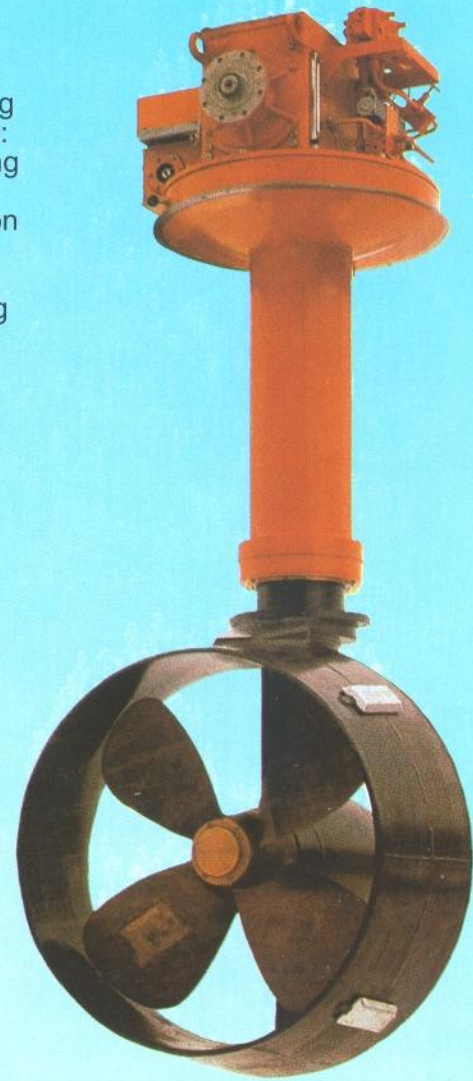
HIGH POWER

The unique double piston support bearing enables higher powers to be transmitted:

- the mechanical bearing minimises sliding velocities between piston and shaft;
- the hydrostatic bearing under the piston minimises metal contact and ensures optimal lubrication;
- the large diameter rollers in the bearing minimise contact pressures and have a very high local capacity.

SWIVEL CYLINDER DESIGN

This design ensures that the piston pressure force always acts through the shaft eccentric axis eliminating lateral pressure induced forces between piston and cylinder walls so reducing friction and wearing at high pressures and giving high starting torque efficiencies. This type of design also allows much higher speeds to be attained than with other types of radial piston motor.



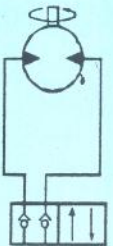
THRUSTER STEERING DRIVE



ANCHOR WINCH

HIGH SPEED FREEWHEELING

Motors can be supplied to operate in freewheeling at speeds **up to double the normal maximum operating speeds**. Highest speeds are possible without oil (ie. with air or vacuum) in the pistons. When freewheeling the pistons are not detached from the shaft enabling dynamic transitions to and from normal operating mode.



MOORING CAPABILITY

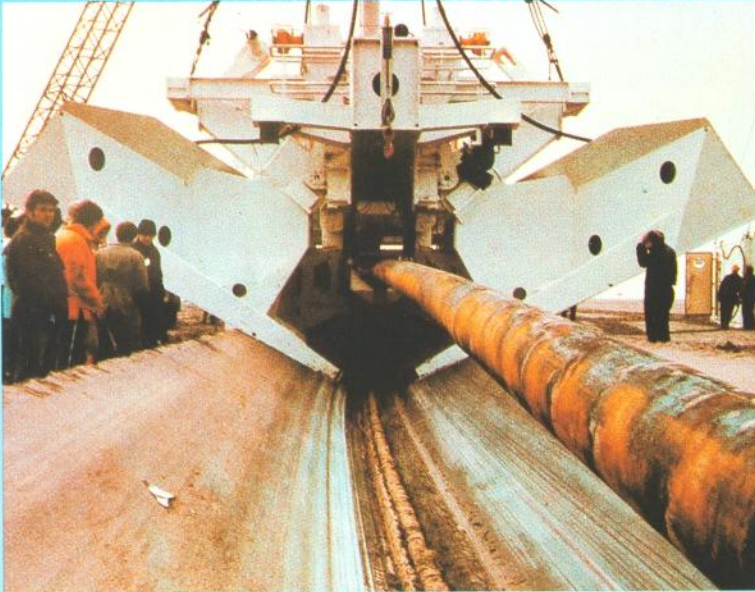
Low specific loading between moving components ensure that the lubricating film between them is not broken down in these operating conditions.



HOLD COVER WINCH

CONTAMINATION RESISTANCE

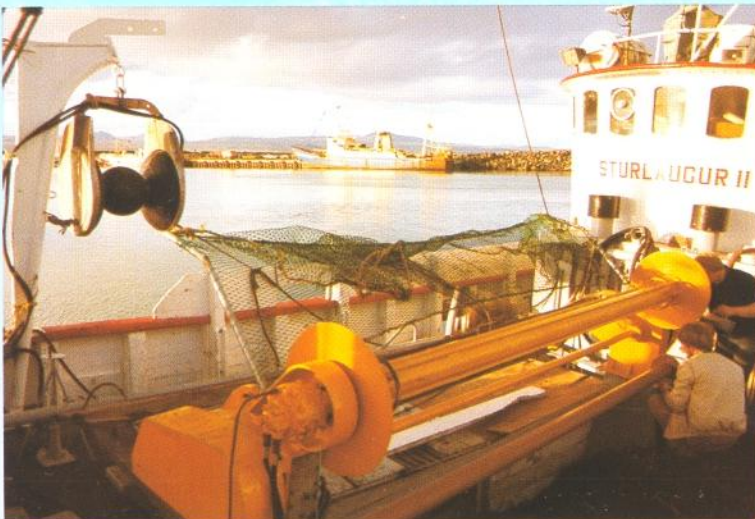
Wide clearance tolerances between dynamic components mean that contamination particles not intercepted by the filters tend not to lodge between the surface.



UPPER DECK WINCH

THERMAL SHOCK RESISTANCE

The motors are designed with wide clearance tolerance between moving components. This ensures that the motors are not affected by changes in tolerance caused by steep temperature gradients between internal and external components.



NET WINCH

CAVITATION RESISTANCE

The motors are designed so that the pistons cannot separate from the shaft irrespective of the pressure conditions in the cylinder or in the motor casing, so preventing lifting, tilting or hammering of the piston during cavitation, or with high pressures in the drain line.

HIGH VOLUMETRIC EFFICIENCIES

All the high pressure areas in the motors have seals which maintain high volumetric efficiencies even with changes in tolerance between dynamic surfaces caused by thermal expansion or contraction, by flexure under stress or wearing of the surface.

INERTIA

The motors are not damaged by sudden rotation caused by external masses even if these cause the motor to cavitate.



CAPSTAN

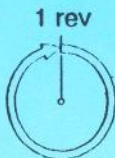


NET HOLDING WINCH

LOW SPEED OPERATION

The motors maintain a high degree of speed stability even at very low speed.

This is due to the high starting and low speed mechanical efficiencies (typically 92 - 96%), high volumetric efficiencies (typically >99%) and high sliding stability of the moving components under load minimising stick-slip phenomena.



NET HOLING WINCH



THRUSTER STEERING DRIVE

IMMERSION CAPABILITY

The motors can be operated fully immersed. The external components can be manufactured using corrosion resistant materials such as Inox.

HIGH BACK PRESSURE

The motors can operate with high return-line pressure with high mechanical efficiencies, enabling a greater number of motors to be operated in series simultaneously.

20 bar CASE PRESSURE

Motors can be supplied to operate with peak case pressures of 20 bar.

3-SPEED OPERATION

Three speed hydraulic circuit can be obtained using two motors with different displacement. For high speed: small displacement motor connected, large displacement motor in freewheeling; for medium speed: large displacement motor connected, small displacement motor in freewheeling; for low speed: both motors connected.



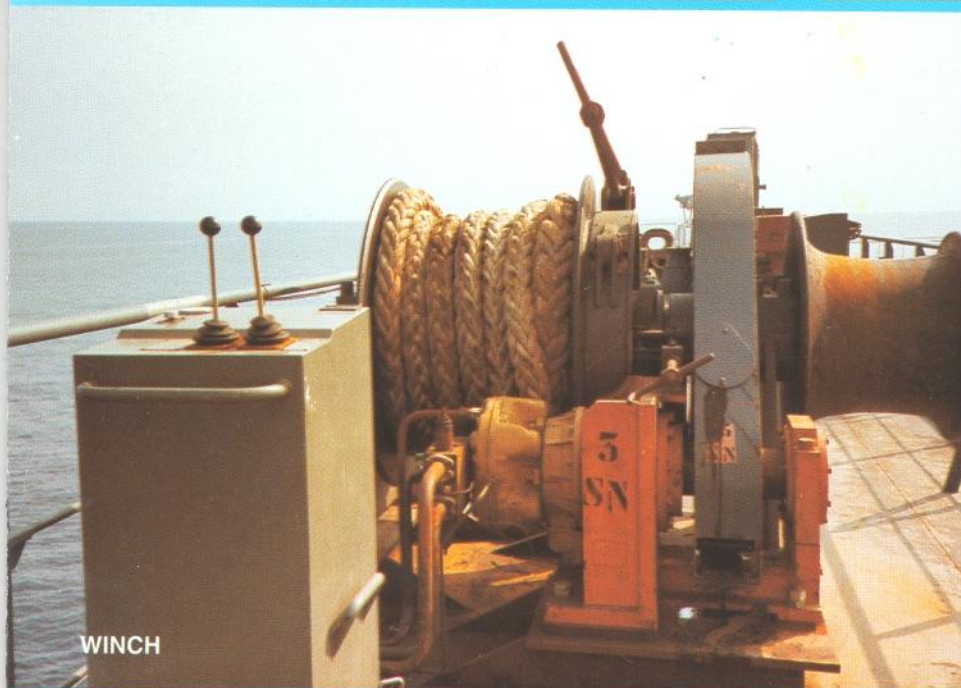
FERRY WINCH



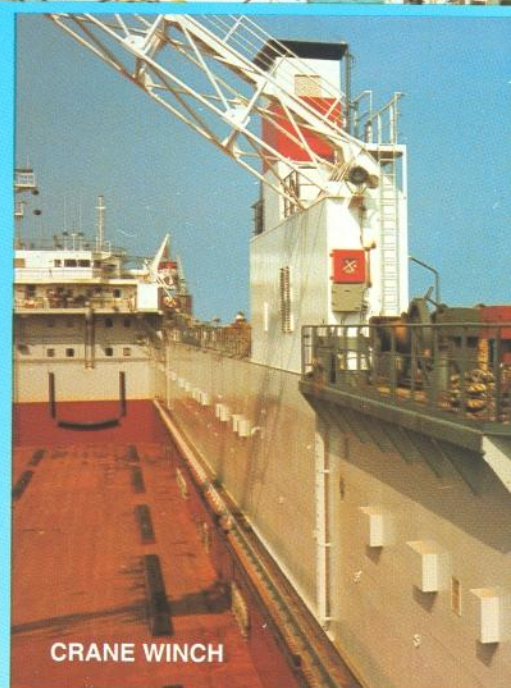
OFFSHORE DRILLING EQUIPMENT



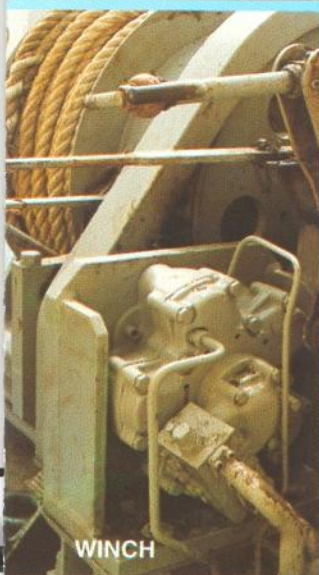
WINCH



WINCH



CRANE WINCH



WINCH



NET HOLING WINCH



WINCH

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