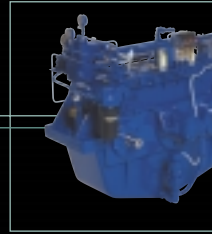




**KUMERA**  
*Norgear Marine Transmissions*



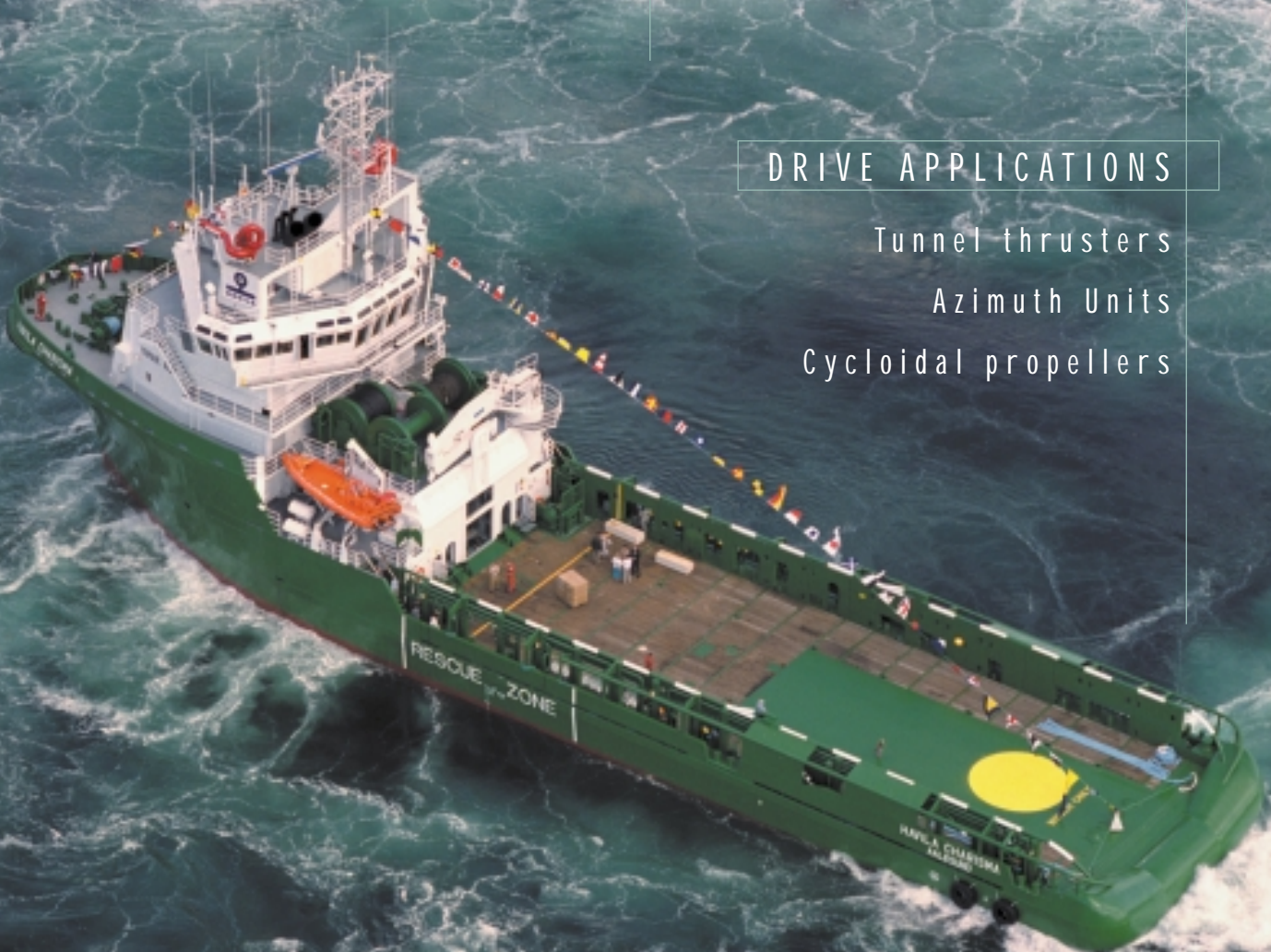
GEARBOXES AND CLUTCH UNITS  
FOR MARINE PROPULSION AND  
AUXILIARY DRIVES

#### DRIVE APPLICATIONS

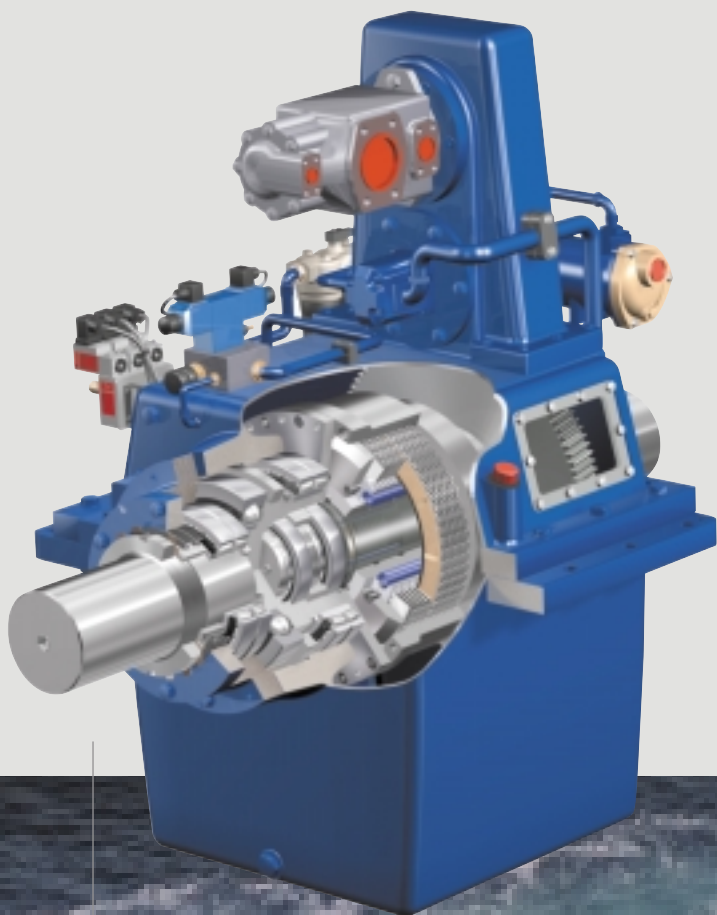
Tunnel thrusters

Azimuth Units

Cycloidal propellers



# Norgear – Gearboxes and Clutch Units for marine propulsion



## NORGEAR HYDRAULIC CLUTCHES

Oil operated, multidisc type NKHU  
Torque range 1250 – 60,000 Nm.

Self-contained in a free standing housing with mechanical oil pressure pump, cooler and filter.

The clutches are arranged for remote electrical operation via an electro-hydraulic valve with advanced control systems, engineered to give the correct format and rate of engagement for the application.

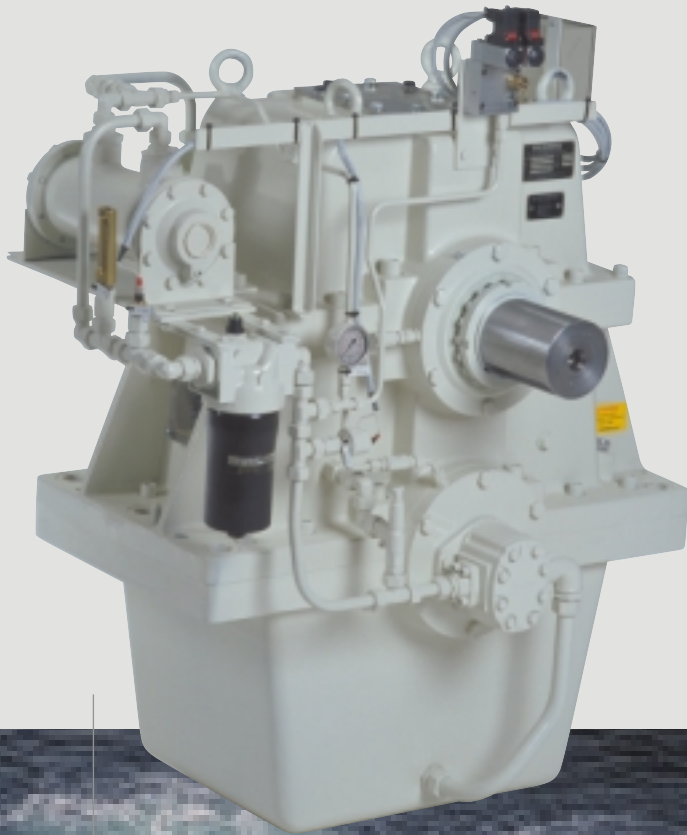


## NORGEAR RIGHT ANGLE GEAR UNITS

Typical applications are drives to tunnel thruster or azimuth thruster. Standard range size KV1V-DB to FB covering upto 3000 kW. With or without built-on hydraulic clutch. Stock housings and standard reduction gear ratios allow short delivery times.

The KA range size, offers many shaft arrangements.

Larger units and special ratios are available to meet customer requirements.



## NORGEAR PARALLEL SHAFT GEARBOXES

Above illustrates a gearbox, type FV, in drive application to cycloidal propeller with the high speed shaft as the lower shaft eliminating cardian shafts.

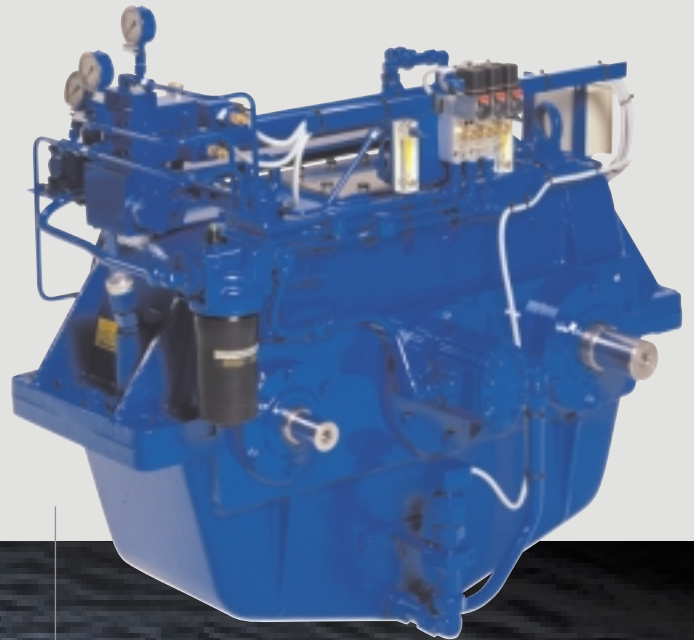
Type FV – Vertical offset shafts.

FVC – with clutch.

Type FG – Horizontal offset shafts

FGC – with clutch.

These gearbox designs allow a choice of shaft configurations to optimize the mechanical transmission from main engine to the propulsion unit.



## NORGEAR COMBINED DUTY GEARBOX

Kumera offers a range of twin input, single output gearboxes with or without built-in oil operated clutches for diesel or electric motor drive. Also single input, twin output gearboxes which permit for example a clutched drive to an azimuth propulsion thruster and a continuous drive to a ship service alternator. There are many variations possible offering cost effective and space saving solutions.

Our Project Department would be pleased to prepare a preliminary dimension drawing and specification to meet the application.

# Norgear Marine Transmissions



## MEMBER OF THE KUMERA CORPORATION

Kumera AS has been a member of the Kumera Corporation since 1979 bringing together 50 years experience of marine installations with the modern manufacturing facilities of the Group.

The Sandefjord plant is the centre of Kumera's marine transmissions activities including design, assembly, sales and service of NORGEAR gearboxes and hydraulic clutch units.

Manufacture at Kumera Oy is in accordance with ISO 9001 as certified by Det Norske Veritas.

Equipment will be approved and built under survey of the relevant Classification Society.

Kumera provides a 24 hour Service and Spare Parts operation from Sandefjord and designated stockists in our major markets.

Other mechanical transmission products include main engine front-end PTO gearboxes for such applications as hydraulic pump, fire pump and alternator drives.

AREA REPRESENTATIVE:



**KUMERA**  
*Norgear Marine Transmissions*

KUMERA AS  
Norgear Marine Transmissions  
P.O.Box 2043  
N-3205 SANDEFJORD  
NORWAY  
Tel.: +47 33 48 54 54  
Fax.: +47 33 48 54 55  
E-mail: sales@kumera.no

KUMERA DRIVES OY  
Kumerankatu 2  
FIN-11100 RIIHIMÄKI  
FINLAND  
Tel.: +358 19 7491  
Fax.: +358 19 734 699  
E-mail: drives@kumera.fi

www.kumera.com