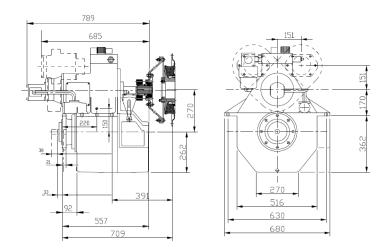
## 270HS

Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
1,61-1,97-2,47-2,96-3,52:1	0,220	50	
3,95-4,47-5,12-5,51:1	0,163	45	
5,93:1	0,145	45	
6,53:1	0,128	45	



#### Servo for CP Propeller:

Max force = 93 kN Max stroke = 76 mm

#### PTO:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 600 Nm

#### Weight:

Approx. 375 kg plus approx. 20 kg per PTO

#### Gearbox:

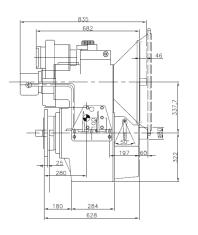
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1 or 2 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

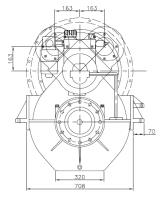
#### Variants:

270HS/LS extra long stroke for feathering propeller

## 337HS

Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,48-3,00-3,54-4,14:1	0,278	50
4,55-5,11-5,47-5,94:1	0,220	50







#### Servo for CP Propeller:

Max force = 120 kN Max stroke = 90 mm

#### PTO/PTI:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 800 Nm

#### Weight:

Approx. 550 kg plus approx. 50 kg per PTO

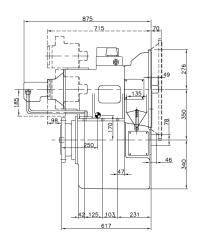
#### Gearbox:

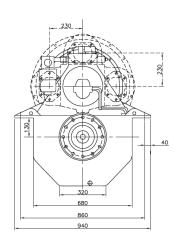
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1 or 2 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

337HS-IS with built-in intermediate shaft for counter rotating propeller

# 350HS







Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	(
1,96-2,53-3,04-3,52:1	0,302	60	/
4,14-4,65-5,12-5,53:1	0,302	60	
5,94:1	0,278	55	
6,35:1	0,236	55	
6,94:1	0,208	55	

### Servo for CP Propeller:

Max force = 120 kN Max stroke = 90 mm

#### PTO:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available Free shaft end also available

Max torque from PTO: 800 Nm

#### Weight:

Approx. 600 kg plus approx. 25 kg per PTO

#### Gearbox:

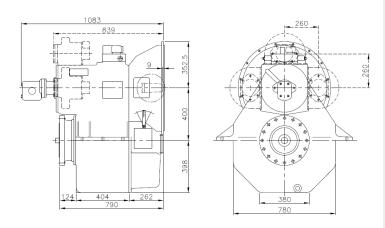
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

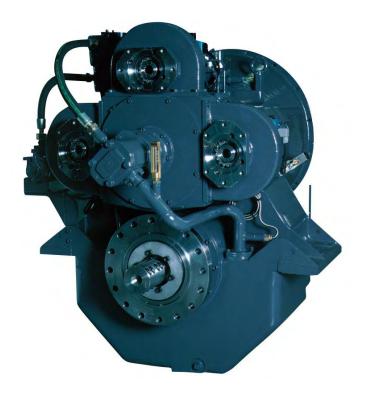
#### Variants:

350HS/LS extra long stroke for feathering propeller 350HS with reverse gear for counter rotating propeller



## 400HS





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
3,04-3,57-4,11-4,65-5,17:1	0,540	70	
5,53:1	0,518	70	
5,94:1	0,453	70	
6,59:1	0,367	70	
6,89:1	0,344	70	

#### Servo for CP Propeller:

Max force = 150 kN Max stroke = 120 mm

#### PTO:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available Free shaft end also available

Max torque from PTO: 900 Nm

#### Weight:

Approx. 900 kg plus approx. 25 kg per PTO

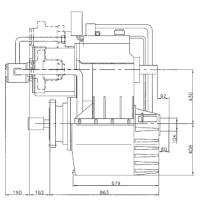
#### Gearbox:

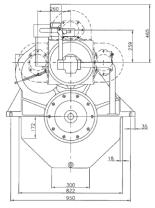
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

400HS/LS extra long stroke for feathering propeller 400HS with reverse gear for counter rotating propeller

## 430HS







Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
1,56-2,04-2,48-3,12-3,48:1	0,690	80	
4,15-4,45-5,12:1	0,690	80	
5,44:1	0,613	80	
4,56-5,04:1	0,540	70	
5,56:1	0,540	70	
5,87:1	0,530	70	
6,53:1	0,460	70	

### Servo for CP Propeller:

Max force = 200 kN

Max stroke = 124 mm

#### PTO:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 900 Nm

#### Weight:

Approx. 1340 kg plus approx. 40 kg per PTO

#### Gearbox:

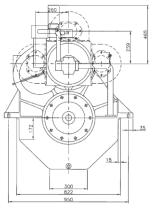
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

430-2HS 2-step gearbox for high reduction ratios

430-2HS

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190 162	679 863	
102 - 102 -		





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
6,11:1	0,575	80	
7,08:1	0,540	70	
7,31:1	0,508	70	
8,00:1	0,495	70	
9,14:1	0,436	70	

### Servo for CP Propeller:

Max force = 200 kN Max stroke = 124 mm

#### PTO:

PTO with SAE D-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 900 Nm

#### Weight:

Approx. 1440 kg plus approx. 40 kg per PTO

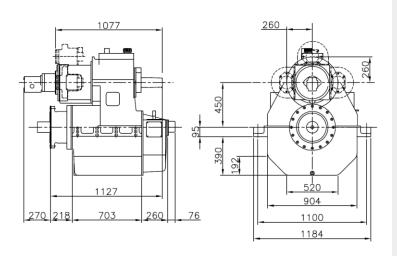
#### Gearbox:

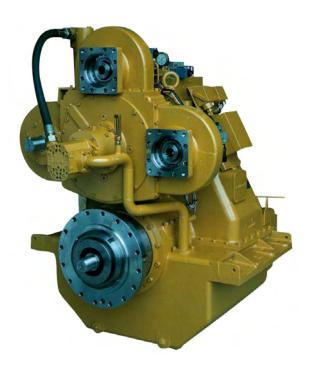
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

430HS 1-step gearbox for lower reduction ratios

## 450HS





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
3,11-3,58:1	1,500	100
4,18-4,44:1	1,120	100
5,11:1	0,972	80
5,47:1	0,889	80
5,94:1	0,773	80
6,47:1	0,670	80

### Servo for CP Propeller:

Max force = 300 kN Max stroke = 180 mm

#### PTO:

PTO with SAE D-flange and 13 tooth 1  $^3/4$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 2000 Nm

#### Weight:

Approx. 2400 kg plus approx. 70 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

4500D prepared for OD system

4500D

1077 1127 270 218 703 260 76	260 092 520 904 1100
	1184



Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
3,11-3,58:1	1,500	100
4,18-4,44:1	1,120	100
5,11:1	0,972	80
5,47:1	0,889	80
5,94:1	0,773	80
6,47:1	0,670	80

#### PT0:

PTO with SAE D-flange and 13 tooth 1  $^3/4$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 2000 Nm

#### Weight:

Approx. 2350 kg plus approx. 70 kg per PTO

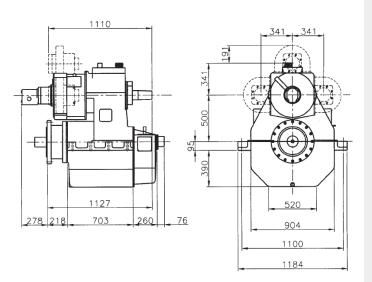
#### Gearbox:

- Prepared for OD system
- Compact design
- · Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

450HS with built-in servo system for CP propeller

# 500HS





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Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,03-2,56-3,04-3,32:1	2,400	120
3,63:1	2,315	120
4,24:1	1,803	120
4,39:1	1,752	120
3,52-4,05:1	1,650	100
4,65:1	1,433	100
4,94:1	1,345	100
5,67:1	1,026	100
6,06:1	0,951	100
6.56:1	0.810	100

#### Servo for CP Propeller:

Max force = 300 kN Max stroke = 180 mm

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1  $^{3}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available
Max torque from PTO: 2000 Nm
Max torque from PTO/PTI: 3500 Nm

#### Weight:

Approx. 2400 kg plus approx. 70 kg per PTO

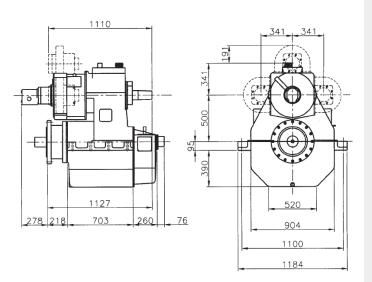
#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

500HS/PTI with PTI shaft
500-2HS 2-step gearbox for high reduction ratios
500OD prepared for OD system
500OD/PTI with PTI shaft
500-2OD 2-step gearbox for high reduction ratios

# 5000D





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
2,03-2,56-3,04-3,32:1	2,400	120	
3,63:1	2,315	120	
4,24:1	1,803	120	
4,39:1	1,752	120	
3,52-4,05:1	1,650	100	
4,65:1	1,433	100	
4,94:1	1,345	100	
5,67:1	1,026	100	
6,06:1	0,951	100	
6,56:1	0,810	100	

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1  $^{3}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available
Max torque from PTO: 2000 Nm
Max torque from PTO/PTI: 3500 Nm

#### Weight:

Approx. 2350 kg plus approx. 70 kg per PTO

#### Gearbox:

- Prepared for OD system
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

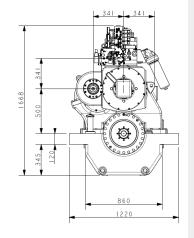
#### Variants:

500HS with built-in servo system for CP propeller 500-2HS 2-step gearbox for high reduction ratios 500HS/PTI with PTI shaft 500OD/PTI with PTI shaft

500-20D 2-step gearbox for high reduction ratios

500-2HS

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Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
		\	
6,58-7,05-7,61:1	1,050	90	
7,93-8,49:1	0,910	90	
9,16:1	0,894	90	
9,91:1	0,861	90	
10,68:1	0,842	90	

#### Servo for CP Propeller:

Max force = 300 kN Max stroke = 180 mm

#### PTO:

PTO with SAE C-flange and 13 tooth 1  $^3/4$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 2000 Nm

#### Weight:

Approx. 3000 kg plus approx. 70 kg per PTO

#### Gearbox:

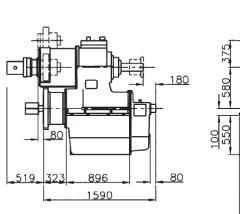
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

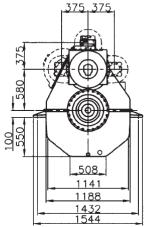
#### Variants:

500HS 1-step gearbox for low reduction ratios 500HS/PTI with PTI shaft 500OD prepared for OD system 500OD/PTI with PTI shaft

500-20D 2-step gearbox for high reduction ratios

## 580HS







Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,03-2,55-3,12-3,48:1	3,68	130
4,15:1	3,28	130
4,53:1	2,73	130
5,06:1	2,33	110
5,65:1	1,96	110
6,06:1	1,80	95
6,47:1	1,25	95
6,94:1	1,16	95

#### Servo for CP Propeller:

Max force = 730 kN Max stroke = 190 mm

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1  $^{3}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available
Max torque from PTO: 2700 Nm
Max torque from PTO/PTI: 4700 Nm

#### Weight:

Approx. 4900 kg plus approx. 70 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

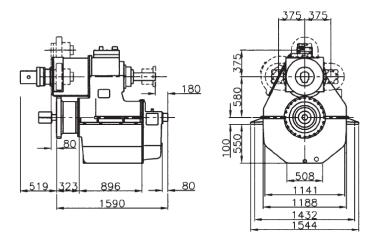
580HS-IS with intermediate shaft for counter rotating propeller 580HS/PTI with PTI shaft

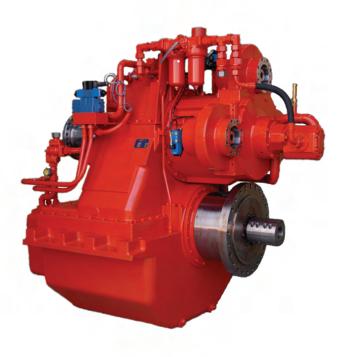
580HS-H with horizontal offset

5800D prepared for OD system

580OD-IS with intermediate shaft for counter rotating propeller 580OD/PTI with PTI shaft

5800D





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,03-2,55-3,12-3,48:1	3,68	130
4,15:1	3,28	130
4,53:1	2,73	130
5,06:1	2,33	110
5,65:1	1,96	110
6,06:1	1,80	95
6,47:1	1,25	95
6,94:1	1,16	95

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1  $^{3}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 2700 Nm Max torque from PTO/PTI: 4700 Nm

#### Weight:

Approx. 4850 kg plus approx. 70 kg per PTO

#### Gearbox:

- Prepared for OD system
- Compact design
- · Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

580HS with built-in servo system for CP propeller

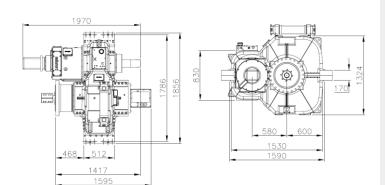
580HS/PTI with PTI shaft

580HS-IS with intermediate shaft for counter rotating propeller

580HS-H with horizontal offset

580OD-IS with intermediate shaft for counter rotating propeller 580OD/PTI with PTI shaft

## 580HS-H





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
2,03-2,55-3,12-3,48:1	3,68	130	
4,15:1	3,28	130	
4,53:1	2,73	130	
5,06:1	2,33	110	
5,65:1	1,96	110	
6,06:1	1,80	95	
6,47:1	1,25	95	
6,94:1	1,16	95	

#### Servo for CP Propeller:

Max force = 730 kN Max stroke = 190 mm

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1  $^{3}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available
Max torque from PTO: 2000 Nm
Max torque from PTO/PTI: 4700 Nm

#### Weight:

Approx. 4900 kg plus approx. 70 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

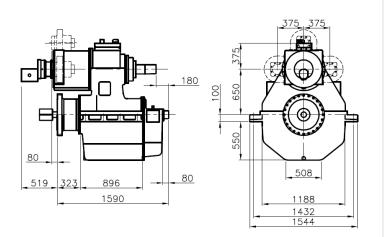
580HS with built-in servo system for CP propeller

580HS/PTI with PTI shaft

580HS-IS with intermediate shaft for counter rotating propeller 5800D prepared for OD system

580OD-IS with intermediate shaft for counter rotating propeller 580OD/PTI with PTI shaft

## 650HS





		· · · · · · · · · · · · · · · · · · ·	
Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
2,03-2,58-3,04-3,55:1	4,580	140	
4,05:1	4,185	130	
4,53:1	3,631	130	
5,05:1	3,067	130	
5,44:1	2,836	130	
6,06:1	2,303	110	
6,47:1	1,990	110	

#### Servo for CP Propeller:

Max force = 730 kN Max stroke = 190 mm

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1  $^3/4$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available
Max torque from PTO: 2000 Nm
Max torque from PTO/PTI: 4700 Nm

#### Weight:

Approx. 5500 kg plus approx. 70 kg per PTO

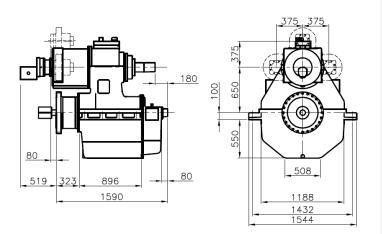
#### Gearbox:

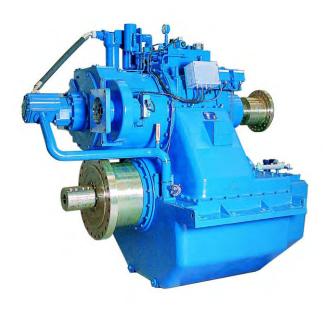
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

650HS/PTI with PTI shaft 650OD prepared for OD system 650OD/PTI with PTI shaft

6500D





		· ·	
Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
2,03-2,58-3,04-3,55:1	4,580	140	
4,05:1	4,185	130	
4,53:1	3,631	130	
5,05:1	3,067	130	
5,44:1	2,836	130	
6,06:1	2,303	110	
6,47:1	1,990	110	

#### PTO/PTI:

PTO with SAE D-flange and 13 tooth 1 <sup>3</sup>/<sub>4</sub>" involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available
Max torque from PTO: 2000 Nm
Max torque from PTO/PTI: 4700 Nm

#### Weight:

Approx. 5450 kg plus approx. 70 kg per PTO

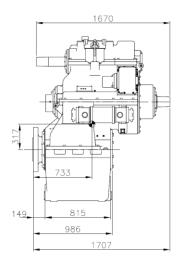
#### Gearbox:

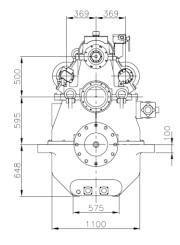
- Prepared for OD system
- · Compact design
- Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

650HS with built-in servo system for CP propeller 650HS/PTI with PTI shaft 6500D/PTI with PTI shaft

## 60HS







Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,84-3,67:1	3,70	130
4,06:1	3,70	130
4,44:1	3,60	130
4,94:1	3,00	130
5,61:1	2,60	130
5,94:1	2,30	130
6,06:1	1,97	130
8,18:1	1,50	130

### Servo for CP Propeller:

Max force = 1200 kN Max stroke = 175 mm

#### PTO/PTI:

PTO/PTI with free shaft PTO max step-up 1:2,24 PTI max step-up 1:3,21

Max torque from PTO: 4000 Nm Max torque from PTO/PTI: 8500 Nm

#### Weight:

Approx. 5500 kg plus approx. 70 kg per PTO

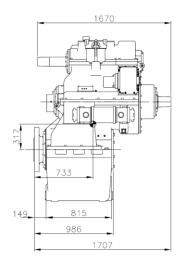
#### Gearbox:

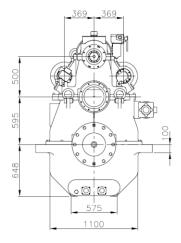
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of PTO/PTI with individual hydraulic clutches
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct/electric driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

600D prepared for OD system

600D







Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,84-3,67-4,06:1	3,70	130
4,44:1	3,60	130
4,94:1	3,00	130
5,61:1	2,30	130
5,94:1	2,30	130
6,06:1	1,97	130
8,18:1	1,50	130

#### PTO/PTI:

PTO/PTI with free shaft PTO max step-up 1:2,24 PTI max step-up 1:3,21

Max torque from PTO: 4000 Nm Max torque from PTO/PTI: 8500 Nm

#### Weight:

Approx. 5400 kg plus approx. 70 kg per PTO

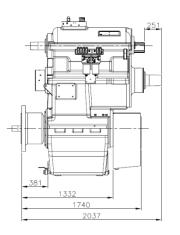
#### Gearbox:

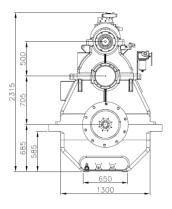
- Prepared for OD system
- Compact design
- Large economical reduction ratio
- Option of PTO/PTI with individual hydraulic clutches
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct/electric driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

### Variants:

60HS with built-in servo system for CP propeller

## **70HS**







Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
3,05:1	7,00	160	
3,53:1	6,80	160	
4,16:1	5,90	160	
4,44:1	5,30	160	
5,05:1	4,50	160	
5,58:1	3,80	160	
5,94:1	3,50	160	
7,12:1	2,69	160	
8,12:1	2,15	160	

#### Servo for CP Propeller:

Max force = 1500 kN Max stroke = 175 mm

#### PTO/PTI:

PTO/PTI with free shaft PTO max step-up 1:2,24 PTI max step-up 1:3,21

Max torque from PTO: 4000 Nm Max torque from PTO/PTI: 8500 Nm

#### Weight:

Approx. 6800 kg plus approx. 70 kg per PTO

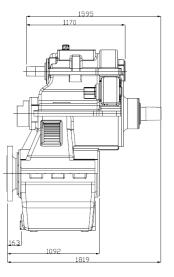
#### Gearbox:

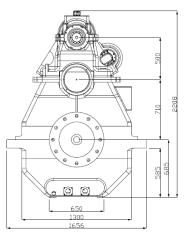
- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of PTO/PTI with individual hydraulic clutches
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct/electric driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

700D prepared for OD system

700D







		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm	
3,05:1	7,00	160	
3,53:1	6,80	160	
4,16:1	5,90	160	
4,44:1	5,30	160	
5,05:1	4,50	160	
5,58:1	3,80	160	
5,94:1	3,50	160	
7,12:1	2,69	160	
8,12:1	2,15	160	

#### PTO/PTI:

PTO/PTI with free shaft PTO max step-up 1:2,24 PTI max step-up 1:3,21

Max torque from PTO: 4000 Nm Max torque from PTO/PTI: 8500 Nm

#### Weight:

Approx. 6750 kg

#### Gearbox:

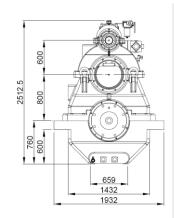
- Prepared for OD system
- · Compact design
- Large economical reduction ratio
- Option of PTO/PTI with individual hydraulic clutches
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct/electric driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

70HS with built-in servo system for CP propeller

# 800D

228
1507 2559





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,95-3,58:1	9,90	180
4,16:1	8,80	180
4,33:1	7,60	180
4,95:1	7,00	180
5,59:1	5,80	180
6,15:1	4,50	180

#### PTO/PTI:

PTO/PTI with free shaft PTO max step-up 1:2,24 PTI max step-up 1:3,21

Max torque from PTO: 4000 Nm Max torque from PTO/PTI: 8500 Nm

### Weight:

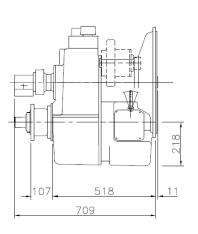
Approx. 14300 kg

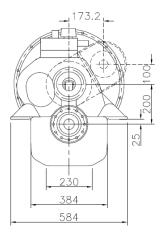
#### Gearbox:

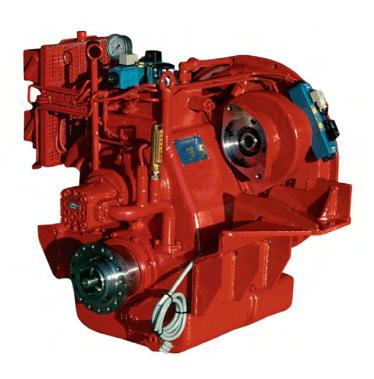
- Prepared for OD system
- · Compact design
- Large economical reduction ratio
- Option of PTO/PTI with individual hydraulic clutches
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct/electric driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

## 200HSC

Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,13:1	0,260	57
2,55:1	0,226	57
2,94:1	0,224	57







#### Servo for CP Propeller:

Max force = 75 kN Max stroke = 70 mm

#### PTO:

PTO with SAE B-flange and 13 tooth  $^{7}/8$ " involute inside spline Max torque from PTO: 400 Nm

#### Weight:

Approx. 275 kg plus approx. 25 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Option of 1 PTO with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

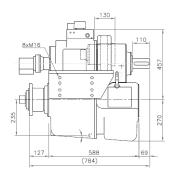
200HSC-IS with built-in intermediate shaft for counter rotating propeller

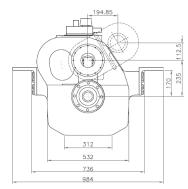
200HSC-U with U-drive

 $200\mbox{HSC-U-IS}$  with U-drive and intermediate shaft for counter rotating propeller

## 235HSC

Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
1,96-2,45:1	0,350	65
2,94:1	0,310	65
3,43:1	0,226	65







### Servo for CP Propeller:

Max force = 110 kN

Max stroke = 80 mm

#### PTO:

PTO with SAE B-flange and 13 tooth  $^{7}/8$ " involute inside spline Max torque from PTO: 600 Nm

#### Weight:

Approx. 400 kg plus approx. 25 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Option of 1 PTO with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

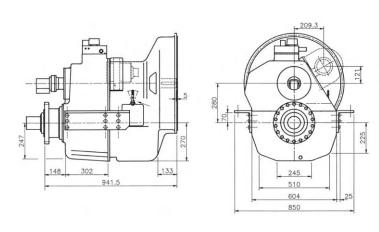
235HSC-IS with built-in intermediate shaft for counter rotating propeller

235HSC-U with U-drive

 $235\mbox{HSC-U-IS}$  with U-drive and intermediate shaft for counter rotating propeller

## 280HSC

Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
1,75-2,06-2,55:1	0,610	80
3,06:1	0,570	80
3,47:1	0,610	80



#### Servo for CP Propeller:

Max force = 156 kN Max stroke = 114 mm

#### PTO:

PTO with SAE B-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Step-up 1:1,11

Max torque from PTO: 600 Nm

#### Weight:

Approx. 700 kg plus approx. 30 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- Large economical reduction ratio
- Option of 1 PTO with own hydraulic clutch
- Rigid cast iron housing
- Helical ground gearwheels in casehardened and highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

#### Variants:

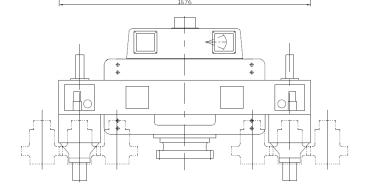
280HSC-IS with built-in intermediate shaft for counter rotating propeller

280HSC-U with U-drive

280HSC-U-IS with U-drive and built-in intermediate shaft for counter rotating propeller

## TWIN1400

230	
408	3300





Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,03-4,03-5,04:1	2x0,302	2x60
6,11:1	2x0,322	2x60
7,18:1	2x0,229	2x60

### Servo for CP Propeller:

Max force = 200 kN

Max stroke = 124 mm

#### PTO:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 800 Nm

#### Weight:

Approx. 1700 kg plus approx. 25 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- · Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened, highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

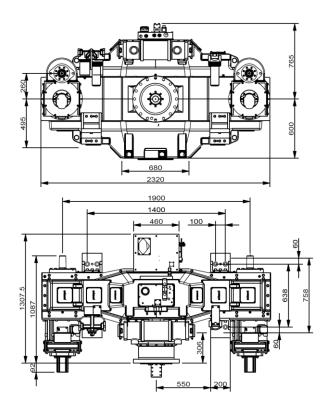
#### Variants:

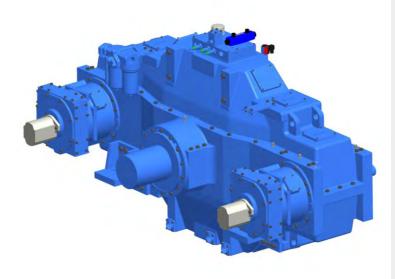
TWIN1400-U with U-drive

TWIN1400OD prepared for OD system

## TWIN1800

Reduction Ratio	Power Factor kW/RPM	Input Shaft Diameter mm
2,34-4,05-4,55:1	2x0,540	2x60
5,05-6,05:1	2x0,540	2x60
7,12-7,59:1	2x0,540	2x60





#### Servo for CP Propeller:

Max force = 200 kN Max stroke = 124 mm

#### PTO:

PTO with SAE C-flange and 14 tooth 1  $^{1}/_{4}$ " involute inside spline Other SAE and ISO flanges and splines available

Free shaft end also available Max torque from PTO: 800 Nm

#### Weight:

Approx. 2300 kg plus approx. 25 kg per PTO

#### Gearbox:

- Built-in servo system for CP propeller
- Compact design
- · Large economical reduction ratio
- Option of 1, 2 or 3 PTOs each with own hydraulic clutch
- · Rigid cast iron housing
- Helical ground gearwheels in casehardened, highly alloyed steel
- Hydraulic multi-plate clutch
- Oil system with direct driven oil pump, cooler, filter, valves etc.
- Pressure lubricated spherical roller bearings
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

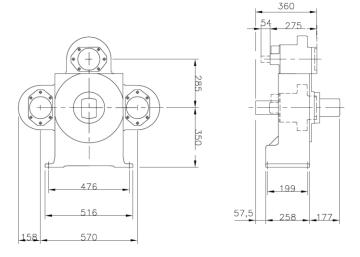
#### Variants:

TWIN1800-U with U-drive

TWIN1800OD prepared for OD system

PTO285

#### Dimension sketch, option of 1, 2 or 3 PTOs



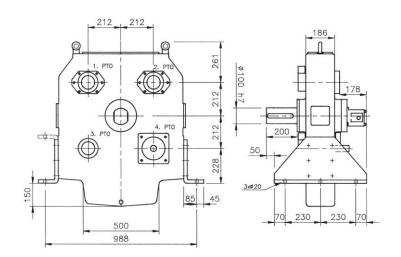
PTO gearbox with up to 3 output shafts Weight approx. 250 kg with 3 PTOs mounted

#### Gearbox:

- Rigid cast iron housing wilth oil sump, supports and inspection lids
- Step-up ratio options: 1:1,76 1:1,02 1:1,33 1:1,49 1:1,90
- Max torque 900 Nm (Option of 1050 Nm)
- Roller bearings of double spherical type
- Gearwheels in casehardened and highly alloyed steel
- Ø80 mm input shaft
- Pressure transmitter and temparature sensor
- Oil system with pump, pessure regulating valve and cooler
- Hydraulic multidisc clutch
- Solenoide valve for remote control of clutch
- Drive shaft with SAE C flange and 14 tooth 1 <sup>3</sup>/<sub>4</sub>" involute inside spline (other configurations available on request)
- Pressure lubricating system for bearings and gears
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

## PT0300

#### Dimension sketch, option of 1, 2, 3 or 4 PTOs



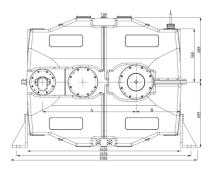


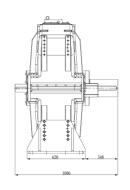
PTO gearbox with up to 4 output shafts Weight approx. 550 kg with 4 PTOs mounted

#### Gearbox:

- Rigid cast iron housing wilth oil sump, supports and inspection lids
- Step-up ratio options: 1:2,13 1:1,0 1:1,38 1:1,64 1:1,90
- Max torque 900 Nm (Option of 1050 Nm or 1600 Nm)
- Roller bearings of double spherical type
- Gearwheels in casehardened and highly alloyed steel
- Ø100 mm input shaft
- Pressure transmitter and temparature sensor
- Oil system with pump, pessure regulating valve and cooler
- Hydraulic multidisc clutch
- Solenoide valve for remote control of clutch
- Drive shaft with SAE C flange and 14 tooth 1 <sup>3</sup>/<sub>4</sub>" involute inside spline (other configurations available on request)
- Pressure lubricating system for bearings and gears
- Designed according to the rules of the classification societies
- Each gearbox is tested and approved in test bed

## PT0900







			,	
Step Up <b>Ratio</b>	Speed F In	RPM Out	Max. Generator Power kW	
1:7,15	210	1502	900	/
1:8,71	173	1506	700	
1:10,44	173	1805	900	
1:12,44	146	1816	900	
1:14,30	127	1820	900	
1:15,83	113	1789	900	

Most efficient PTO system for controllable pitch propulsion systems. Designed for 2-stroke engine applications with specific focus on environment and fuel economy.

#### Weight:

Approx. 2800 kg

#### Gearbox:

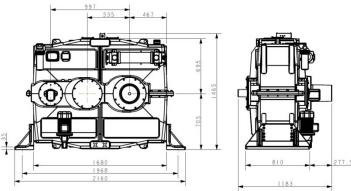
- Rigid cast iron housing wilth oil sump, supports and inspection lids
- Horizontal offset
- Roller bearings of double spherical type
- Tapered 1:30 input and output shafts
- Gearwheels in casehardened and highly alloyed steel
- Pressure transmitter and temeparature sensor
- Oil system with direct driven oil pump, cooler, filter, valves, manometer etc.
- Pressure lubricating system for bearings and gears
- Designed according to the rules of the classification societies
- Built on emergency oil pump unit 1 kW with automatic start
- Each gearbox is tested and approved in test bed

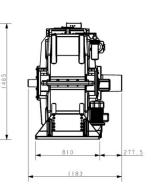
### Variants:

Customized step up ratios available on request 1 step or 2 step configurations

## PTO1500

Step Up Ratio	Speed I In	RPM Out	Max. Generator Power kW	
1:10,44	173	1805	1650	
1:10,79	167	1802	1650	
1:14,20	127	1803	1350	
1:16,37	110	1801	1250	







Most efficient PTO system for controllable pitch propulsion systems. Designed for 2-stroke engine applications with specific focus on environment and fuel economy.

#### Weight:

Approx. 3800 kg

#### Gearbox:

- · Rigid cast iron housing wilth oil sump, supports and inspection lids
- Horizontal offset
- Roller bearings of double spherical type
- Tapered 1:30 input and output shafts
- Gearwheels in casehardened and highly alloyed steel
- Pressure transmitter and temeparature sensor
- Oil system with direct driven oil pump, cooler, filter, valves, manometer etc.
- Pressure lubricating system for bearings and gears
- Designed according to the rules of the classification societies
- Built on emergency oil pump unit 1 kW with automatic start
- Each gearbox is tested and approved in test bed

### Variants:

Customized step up ratios available on request 1 step or 2 step configurations