



# catalogue.

MARINE DIESEL ENGINES. GENSETS. PROPELLERS. ACCESSORIES

2015  
2016





# catalogue.

MARINE DIESEL ENGINES, GENSETS, PROPPELLERS, ACCESSORIES

2015  
2016

Solé S.A. seeks to constantly improve its final products, and so the design, description, dimensions, configuration and other technical specifications given herein, appear only for informational purposes and should not be taken as a binding offer with respect to the final product.

Technical specifications and presentation are subject to variations and modifications without previous notice.

#### DESIGN

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#### EDITION

November 2015

#### SPARE PARTS SERVICE

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ISO 9001

BUREAU VERITAS  
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Solé Diesel was founded in 1914 by Mr. Enrique Solé Jorba. The company, which is now 100 years old, is totally consolidated in the marine market with engines, generators and accessories.

Nowadays it is managed by the 3rd generation; Mr. Enrique Solé Matas. Solé Diesel believes in leading the way with product innovation, continuous product improvements and an effective after sales and service network to ensure all customers' expectations are met.

Our international distributors (more than 50 all over the world) with their own local network of chandleries and workshops, it's the proof of how important is for us the after sales service. Any client sailing all over the world can easily find a Solé Diesel service.

Today we are a reference point brand in the engine marinization in both, domestic and international markets. During all these years, we stand apart in the market thanks to our philosophy of personalized customer service, always offering the best advice, seeking the best alternatives according the client's needs for both leisure and commercial application.

100 years of experience in the sector guarantee's the final result of our products.

Solé Diesel products are entirely manufactured in Martorell (Barcelona), under the highest quality standards, always having the client's satisfaction as a target. In order to achieve our client's needs, we work together with the finest brands in the market including Mitsubishi, Deutz, Mecc Alte, Sincro.

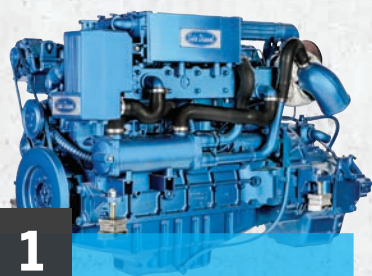
We are known as a flexible, dynamic and effective company and part of our product success lies in the combination between the knowhow from our most experienced staff, with the newest techniques from the newest generations, and the total control of the manufactured process.

ENRIQUE  
SOLÉ





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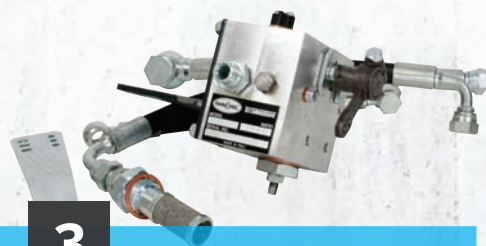


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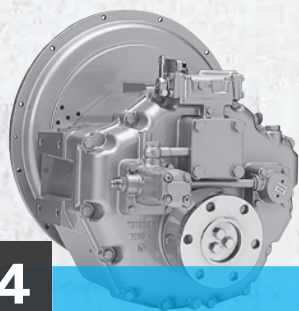
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diesel  
marine  
engines.



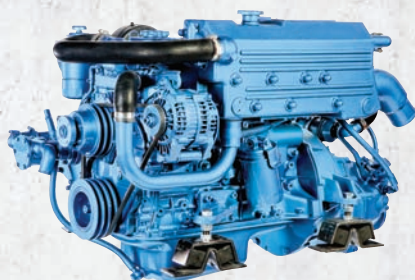


## Base engines



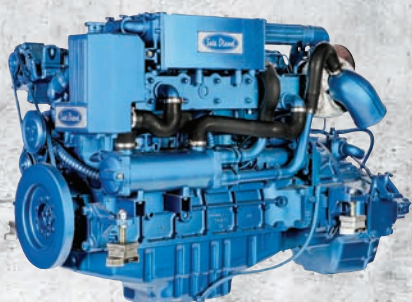
More than 30 years of experience with Mitsubishi engines, gives the credibility to our final product. A complete range from 16 up to 95 HP provides the best coverage to a wide range of boats for leisure and commercial application. Mitsubishi engines are meaning of reliability, hardness and durability. These engines are settled in many industrial applications.

| Model   | Power             | RPM  | N. of Cylinders | Displacement |
|---------|-------------------|------|-----------------|--------------|
| MINI-17 | 11.8 kW - 16.0 HP | 3600 | 2               | 635 cc       |
| MINI-29 | 20.0 kW - 27.2 HP | 3600 | 3               | 952 cc       |
| MINI-33 | 23.1 kW - 31.4 HP | 3000 | 3               | 1318 cc      |
| MINI-44 | 30.9 kW - 42.0 HP | 3000 | 4               | 1758 cc      |
| MINI-55 | 38.3 kW - 52.0 HP | 3000 | 4               | 1758 cc      |
| MINI-62 | 43.4 kW - 59.0 HP | 3000 | 4               | 2311 cc      |
| MINI-74 | 47.9 kW - 65.1 HP | 2500 | 4               | 3331 cc      |
| SM-105  | 69.9 kW - 95.0 HP | 2500 | 6               | 4996 cc      |



The Solé Diesel engine on NISSAN base has a great versatility. Thanks to its compact size this engine is very suitable for leisure boats which require a high performance on a very reduced space and also, for commercial boats which need reliable, compact and durable engine.

| Model  | Power              | RPM  | N. of Cylinders | Displacement |
|--------|--------------------|------|-----------------|--------------|
| SN-110 | 74.3 kW - 101.0 HP | 3600 | 4               | 3153 cc      |



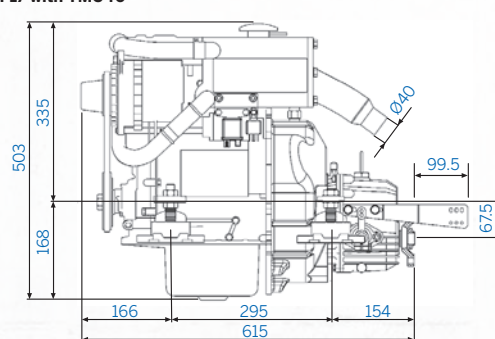
The Solé Diesel engines on DEUTZ base, include power ranging from 165 up to 272 HP. These engines have been specially designed for continuous duty. Thanks to a low r.p.m. rate, we get more by less. A high power torque rating at less fuel consumption. These engines are perfectly suitable for displacement boats which require the highest power rate during long periods.

| Model   | Power               | RPM  | N. of Cylinders | Displacement |
|---------|---------------------|------|-----------------|--------------|
| SDZ-165 | 118.0 kW - 160.3 HP | 2300 | 4               | 4764 cc      |
| SDZ-205 | 145.0 kW - 197.0 HP | 2300 | 6               | 7146 cc      |
| SDZ-280 | 200.0 kW - 271.7 HP | 2300 | 6               | 7150 cc      |

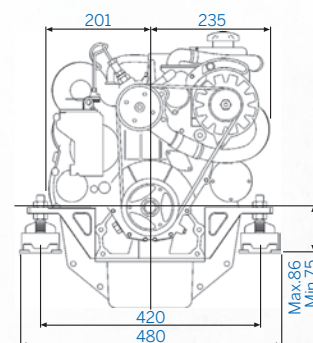




MINI-17 with TMC40



Dimensions in mm

**standard equipment.**

Instrument panel  
3 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Temperature Gauge  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge

Dimensions  
200 x 150 mm**optional equipment.**

Twin instrument panel installation  
Twin alternator  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater connections  
Power train: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

**Deluxe - TE3 instrument panel with:**

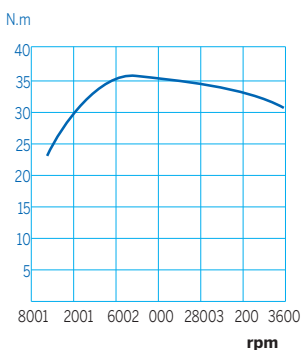
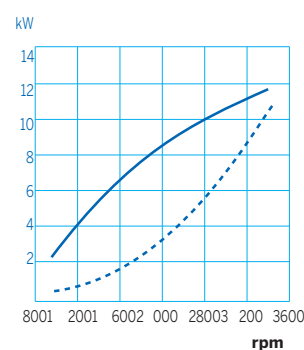
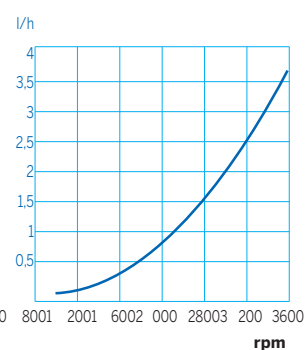
RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm**engine mount.****TYPE A**  
Part number 616.31.100**technical specifications.**

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 2 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 76 x 70                           |
| Total displacement (cc)                    | 635                               |
| Compression ratio                          | 23:1                              |
| Intermittent power rating (per ISO 3046/1) | 16 HP (11.8 kW)                   |
| Continuous output                          | 14.3 HP (10.5 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 75A                        |
| Maximum working angle                      | 25° continuous / 30° intermittent |
| Int. Ø Salt water hose                     | 20 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 5 mm                              |
| Certifications                             | EU RCD, BSO II, EPA TIER III      |

**transmissions.**

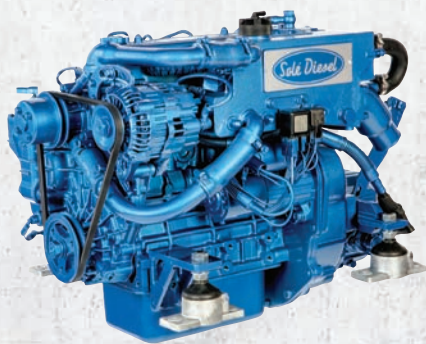
| Model                           | TMC40           | TMC60A          | SAILDRIVE<br>SPROP 60 |
|---------------------------------|-----------------|-----------------|-----------------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive           |
| Type                            | Mechanical      | Mechanical      | Mechanical            |
| Shaft angle                     | –               | 7°              | –                     |
| Reduction ratios (leisure)      | 2.00:1 - 2.60:1 | 2.00:1 - 2.45:1 | 2.15:1                |
| Reduction ratios (heavy duty)   | 2.00:1 - 2.60:1 | 2.00:1 - 2.45:1 | –                     |
| Engine weight with transmission | 96 Kg           | 122 Kg          | 125 Kg                |

**graphs.****ENGINE TORQUE****POWER****FUEL CONSUMPTION**

Note: Power rating per ISO 3046/1

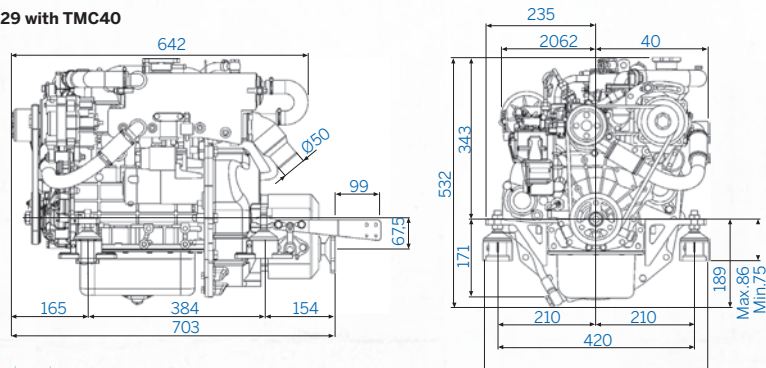


# MINI-29

Engine base **MITSUBISHI DIESEL ENGINE**

3 Cylinder 27.2 HP (20 kW) AT 3600 RPM

MINI-29 with TMC40



Dimensions in mm

## standard equipment.

Instrument panel  
3 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

### Standard - TE2 instrument panel with:

RPM Indicator  
Hour Counter  
Temperature Gauge  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge

Dimensions  
200 x 150 mm

## optional equipment.

Twin instrument panel installation  
Twin alternator  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater connections  
Power train: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

### Deluxe - TE3 instrument panel with:

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm

## engine mount.



**TYPE A**  
Part number 616.31.100

## technical specifications.

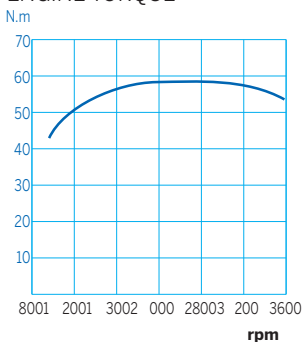
|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 3 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 76 x 70                           |
| Total displacement (cc)                    | 952                               |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 27.2 HP (20 kW)                   |
| Continuous output                          | 24.5 HP (18 kW)                   |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 75A                        |
| Maximum working angle                      | 25° continuous / 30° intermittent |
| Int. Ø Salt water hose                     | 20 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 5 mm                              |
| Certifications                             | EU RCD, BSO II, EPA TIER III      |

## transmissions.

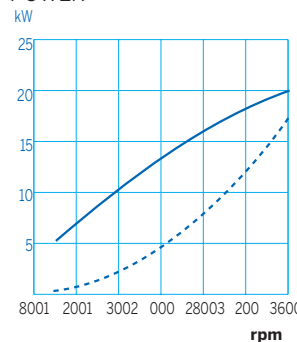
| Model                           | TMC40           | TMC60           | TMC60A          |
|---------------------------------|-----------------|-----------------|-----------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive     |
| Type                            | Mechanical      | Mechanical      | Mechanical      |
| Shaft angle                     | -               | -               | -               |
| Reduction ratios (leisure)      | 2.00:1 - 2.60:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.60:1 |
| Reduction ratios (heavy duty)   | 2.00:1 - 2.60:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.60:1 |
| Engine weight with transmission | 129 kg          | 134 Kg          | 129 kg          |

## graphs.

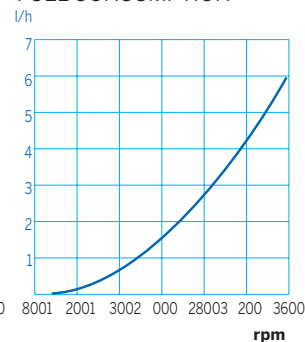
### ENGINE TORQUE



### POWER



### FUEL CONSUMPTION

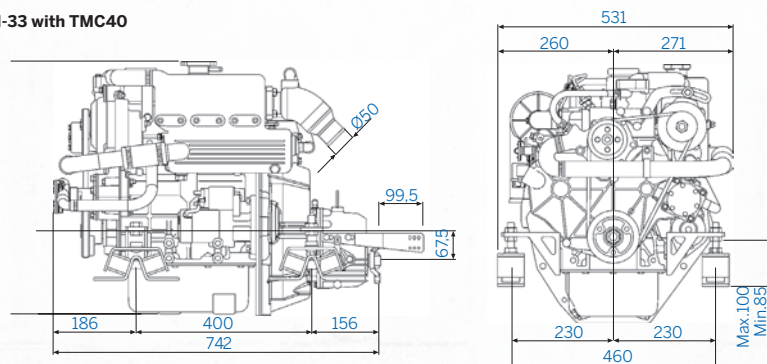


Note: Power rating per ISO 3046/1





MINI-33 with TMC40

**standard equipment.**

Instrument panel  
3 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Temperature Gauge  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge

Dimensions  
200 x 150 mm**optional equipment.**

Twin instrument panel installation  
Twin alternator  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

**Deluxe - TE3 instrument panel with:**

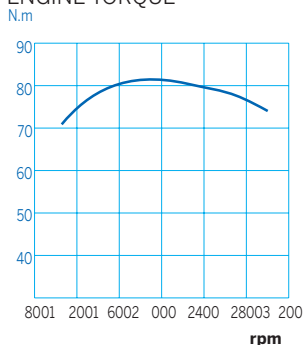
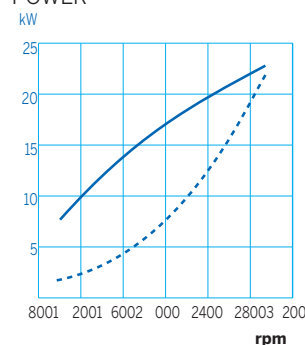
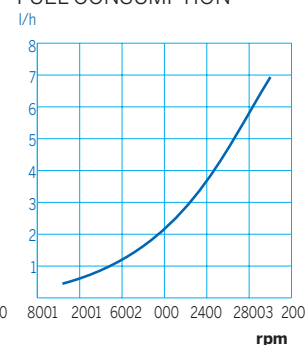
RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm**engine mount.****TYPE E**  
Part number 616.73.000**technical specifications.**

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 3 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 78 x 92                           |
| Total displacement (cc)                    | 1318                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 31.4 HP (23.1 kW)                 |
| Continuous output                          | 28.4 HP (20.9 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 30° intermittent |
| Int. Ø Salt water hose                     | 20 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 5 mm                              |
| Certifications                             | EU RCD, BSO II, EPA Tier III      |

**transmissions.**

| Model                           | TMC40           | TMC60           | TMC60A          | SAILDRIVE<br>SPROP 60 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive     | Technodrive           |
| Type                            | Mechanical      | Mechanical      | Mechanical      | Mechanical            |
| Shaft angle                     | —               | —               | 7°              | 7°                    |
| Reduction ratios (leisure)      | 2.00:1 - 2.60:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1       |
| Reduction ratios (heavy duty)   | 2.00:1 - 2.60:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1       |
| Engine weight with transmission | 161 Kg          | 167 Kg          | 167 Kg          | 167 Kg                |

**graphs.****ENGINE TORQUE****POWER****FUEL CONSUMPTION**

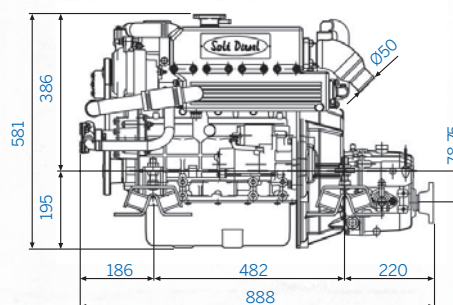
Note: Power rating per ISO 3046/1



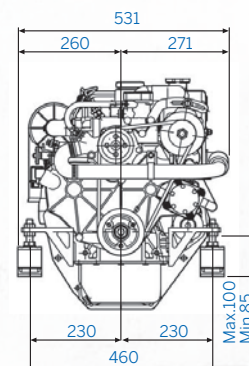
Engine base **MITSUBISHI DIESEL ENGINE**

4 Cylinder 42 HP (30.9 KW) AT 3000 RPM

## MINI-44 with TMC60



Dimensions in mm



## standard equipment.

Instrument panel  
3 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Temperature Gauge  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge

Dimensions  
200 x 150 mm

## optional equipment.

Twin instrument panel installation  
Twin alternator  
24V electrical system  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

**Deluxe - TE3 instrument panel with:**

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm

## engine mount.



**TYPE E**  
Part number 616.73.000

## technical specifications.

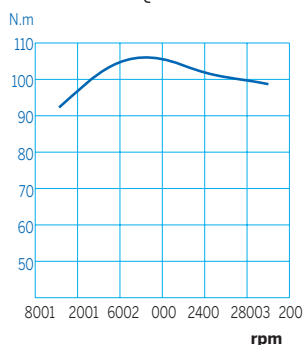
|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 4 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 78 x 92                           |
| Total displacement (cc)                    | 1758                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 42 HP (30.9 kW)                   |
| Continuous output                          | 37.9 HP (27.9 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 30° intermittent |
| Int. Ø Salt water hose                     | 20 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 5 mm                              |
| Certifications                             | EU RCD, BSO II, EPA TIER III      |

## transmissions.

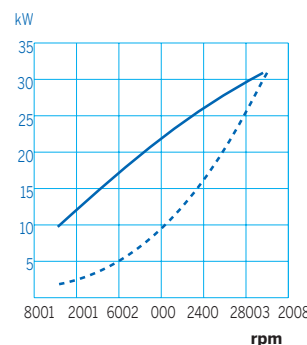
| Model                           | TMC60           | TMC60A          | TM345           | TM345A          | SAILDRIIVE<br>SPROP 60 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|------------------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive     | Technodrive     | Technodrive            |
| Type                            | Mechanical      | Mechanical      | Hydraulic       | Hydraulic       | Mechanical             |
| Shaft angle                     | —               | 7°              | —               | 8°              | —                      |
| Reduction ratios (leisure)      | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.47:1 | 2.00:1 - 2.47:1 | 2.15:1                 |
| Reduction ratios (heavy duty)   | 2.00:1          |                 | 2.00:1 - 2.47:1 | 2.00:1 - 2.47:1 | —                      |
| Engine weight with transmission | 186 Kg          | 186 Kg          | 216 Kg          | 216 Kg          | 215 Kg                 |

## graphs.

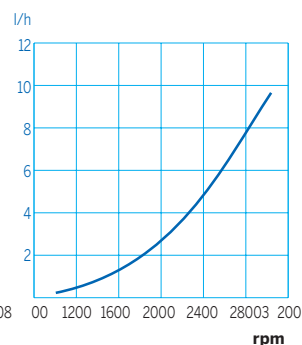
## ENGINE TORQUE



## POWER



## FUEL CONSUMPTION

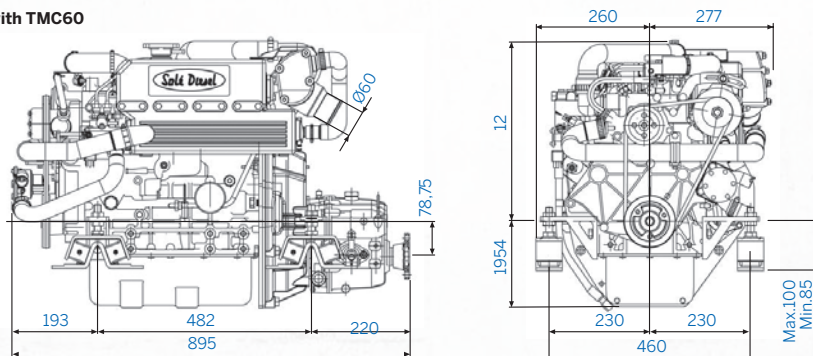


Note: Power rating per ISO 3046/1





MINI-55 with TMC60



Dimensions in mm

**standard equipment.**

Instrument panel  
3 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Temperature Gauge  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge

Dimensions  
200 x 150 mm**optional equipment.**

Twin instrument panel installation  
Twin alternator  
24V electrical system  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

**Deluxe - TE3 instrument panel with:**

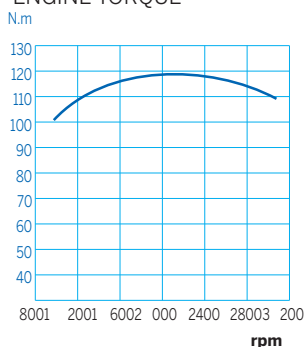
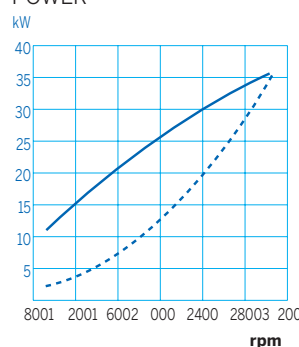
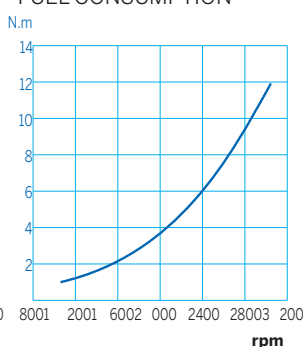
RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm**engine mount.****TYPE E**  
Part number 616.73.000**technical specifications.**

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 4 in-line                         |
| Intake system                              | Turbo Charged                     |
| Diameter x stroke (mm)                     | 78 x 92                           |
| Total displacement (cc)                    | 1758                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 52 HP (38.3 kW)                   |
| Continuous output                          | 46.7 HP (34.4 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 30° intermittent |
| Int. Ø Salt water hose                     | 26 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 5 mm                              |
| Certifications                             | EU RCD                            |

**transmissions.**

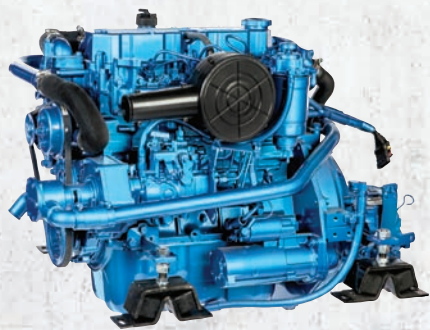
| Model                           | TMC60           | TMC60A          | TM345           | TM345A          | SAILDRIVE<br>SPROP 60 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive     | Technodrive     | Technodrive           |
| Type                            | Mechanical      | Mechanical      | Mechanical      | Mechanical      | Mechanical            |
| Shaft angle                     | -               | -               | -               | -               | -                     |
| Reduction ratios (leisure)      | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1 | 2.00:1 - 2.45:1       |
| Reduction ratios (heavy duty)   | 2.00:1          | 2.00:1          | 2.00:1          | 2.00:1          | 2.00:1                |
| Engine weight with transmission | 207 Kg          | 207 Kg          | 207 Kg          | 207 Kg          | 207 Kg                |

**graphs.****ENGINE TORQUE****POWER****FUEL CONSUMPTION**

Note: Power rating per ISO 3046/1

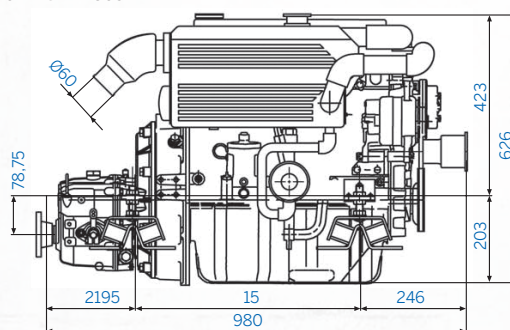


# MINI-62

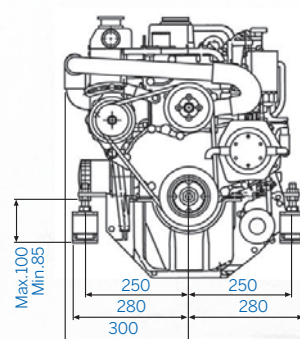
Engine base **MITSUBISHI DIESEL ENGINE**

4 - Cylinder 59 HP (43.4 kW) AT 3000 RPM

MINI-62 with TMC60



Dimensions in mm



## standard equipment.

Instrument panel  
4 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

### Standard - TE2 instrument panel with:

RPM Indicator  
Hour Counter  
Temperature Gauge  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge

Dimensions  
200 x 150 mm

## optional equipment.

Twin instrument panel installation  
Twin alternator  
24V electrical system  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater inlet  
Drivetrain: Propeller, shaft, stern tube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

### Deluxe - TE3 instrument panel with:

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm

## engine mount.



**TYPE E**  
Part number 616.73.000

## technical specifications.

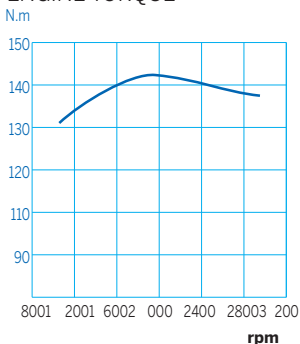
|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 4 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 88 x 95                           |
| Total displacement (cc)                    | 2311                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 59 HP (43.4 kW)                   |
| Continuous output                          | 52.9 HP (38.9 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 20° intermittent |
| Int. Ø Salt water hose                     | 32 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 6 mm                              |
| Certifications                             | EU RCD                            |

## transmissions.

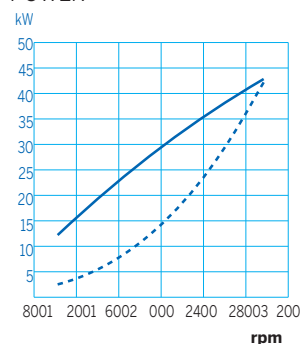
| Model                           | TMC60       | TM345           | TM345A          | SAILDRIVE<br>SPROP 60 |
|---------------------------------|-------------|-----------------|-----------------|-----------------------|
| Manufacturer                    | Technodrive | Technodrive     | Technodrive     | Technodrive           |
| Type                            | Mechanical  | Hydraulic       | Hydraulic       | Mechanical            |
| Shaft angle                     | -           | -               | 8°              | -                     |
| Reduction ratios (leisure)      | 2.00:1      | 2.00:1 - 2.47:1 | 2.00:1 - 2.47:1 | 2.15:1                |
| Reduction ratios (heavy duty)   | -           | 2.00:1 - 2.47:1 | 2.00:1 - 2.47:1 | -                     |
| Engine weight with transmission | 236 Kg      | 253 Kg          | 252 Kg          | 272 Kg                |

## graphs.

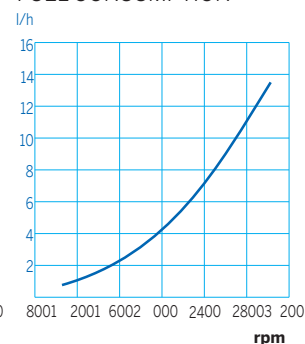
### ENGINE TORQUE



### POWER



### FUEL CONSUMPTION



Note: Power rating per ISO 3046/1



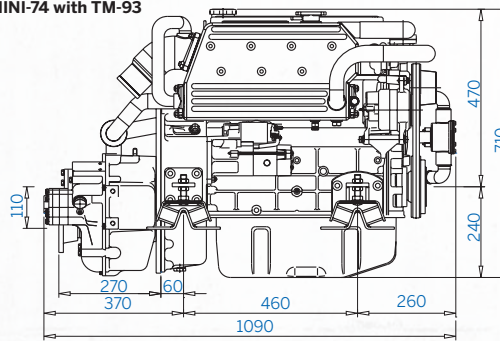
# MINI-74

Engine base **MITSUBISHI DIESEL ENGINE**

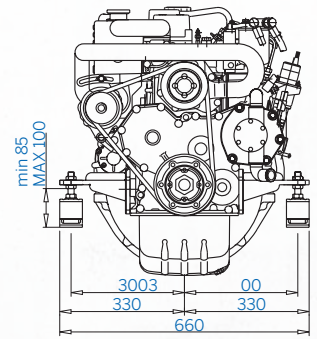
4 Cylinder 65 HP (47.9 KW) AT 2500 RPM



MINI-74 with TM-93



Dimensions in mm



## standard equipment.

Instrument panel  
4 m electrical extension lead  
Engine Mounts  
Oil extraction pump  
Owner's Manual and Spare parts manual

### Standard - TE2 instrument panel with:

- RPM Indicator
- Hour Counter
- Key start and stop with timed preheat indication
- Audible and visual alarm for high engine temperature, low oil pressure and battery charge
- Temperature Gauge, oil pressure Gauge and Voltmeter



Dimensions  
250 x 150 mm

## optional equipment.

Twin instrument panel installation  
Twin alternator  
24V electrical system  
Two-pole electrical system  
Dry exhaust system  
Keel cooling  
Power take-off shaft or pulley  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

## engine mount.



**TYPE E**  
Part number 616.73.000

## technical specifications.

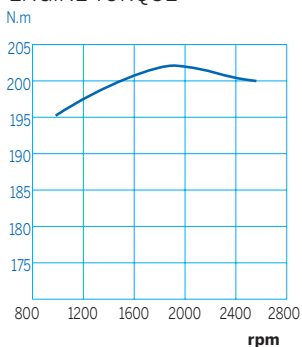
|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 4 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 94 x 120                          |
| Total displacement (cc)                    | 3331                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 65 HP (47.9 kW)                   |
| Continuous output                          | 62 HP (45.6 kW)                   |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 25° intermittent |
| Int. Ø Salt water hose                     | 32 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | ---                               |
| Certifications                             | EU RCD                            |

## transmissions.

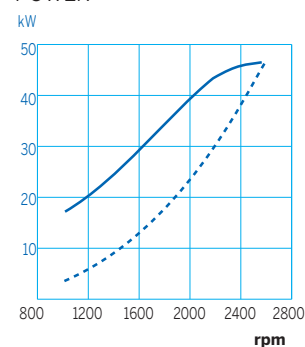
| Model                           | TM345           | TM345A          | TM93                     | TM93A           |
|---------------------------------|-----------------|-----------------|--------------------------|-----------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive              | Technodrive     |
| Type                            | Hydraulic       | Hydraulic       | Hydraulic                | Hydraulic       |
| Shaft angle                     | —               | 8°              | —                        | 8°              |
| Reduction ratios (leisure)      | 2.00:1 - 2.47:1 | 2.00:1 - 2.47:1 | 2.09:1 - 2.40:1 - 2.77:1 | 2.09:1 - 2.40:1 |
| Reduction ratios (heavy duty)   | —               | —               | 2.09:1 - 2.40:1 - 2.77:1 | 2.09:1 - 2.40:1 |
| Engine weight with transmission | 357 Kg          | 357 Kg          | 384 Kg                   | 384 Kg          |

## graphs.

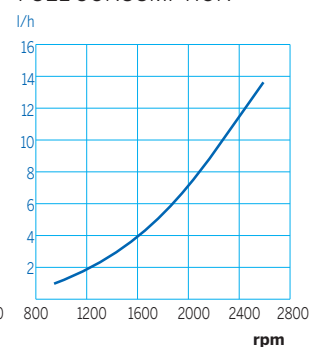
### ENGINE TORQUE



### POWER

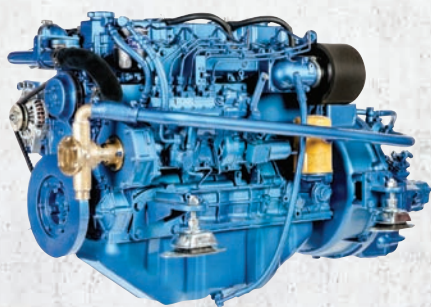


### FUEL CONSUMPTION

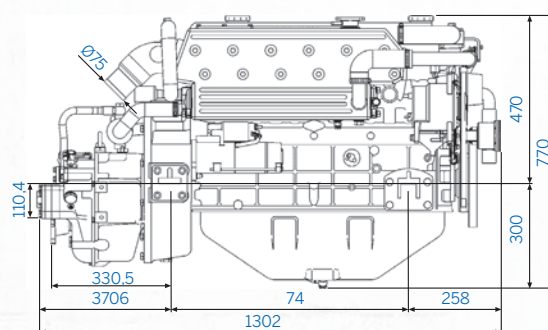


Note: Power rating per ISO 3046/1

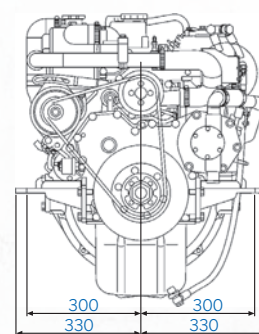




SM-105 with TM 93



Dimensions in mm

**standard equipment.**

Instrument panel  
4 m electrical extension lead  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm**optional equipment.**

- Twin instrument panel installation
- Twin alternator
- 24V electrical system
- Two-pole electrical system
- Dry exhaust system
- Engine Mounts
- Keel cooling
- Power take-off shaft or pulley 4A or 4B
- Heater inlet
- Drivetrain: Propeller, shaft, sterntube
- Water and diesel fuel filters
- Water, exhaust, and diesel fuel hoses

**engine mount.**

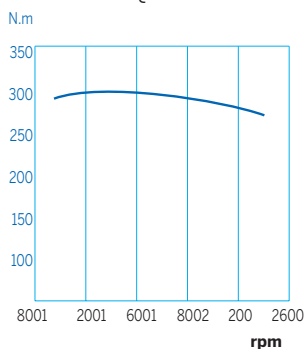
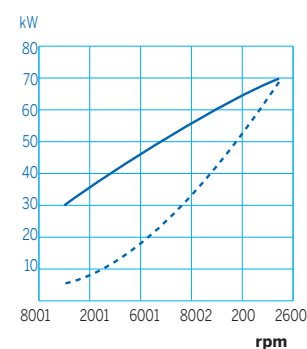
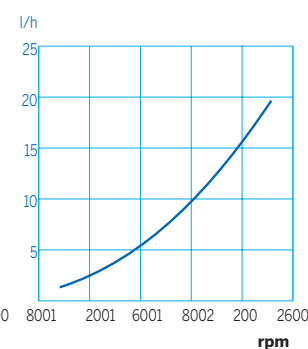
**TYPE D (optional)**  
Part number 616.65.200

**technical specifications.**

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | MITSUBISHI                        |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 6 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 94 x 120                          |
| Total displacement (cc)                    | 4996                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 95 HP (69.9 kW)                   |
| Continuous output                          | 86.8 HP (63.9 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 20° intermittent |
| Int. Ø Salt water hose                     | 32 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | ----                              |
| Certifications                             | EU RCD                            |

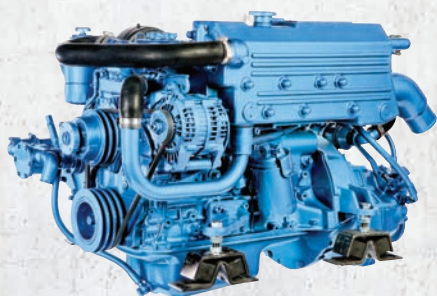
**transmissions.**

| Model                           | TM93                     | TM93A           | TM170                    | TM880A          |
|---------------------------------|--------------------------|-----------------|--------------------------|-----------------|
| Manufacturer                    | Technodrive              | Technodrive     | Technodrive              | Technodrive     |
| Type                            | Hydraulic                | Hydraulic       | Hydraulic                | Hydraulic       |
| Shaft angle                     | —                        | 8°              | —                        | 10°             |
| Reduction ratios (leisure)      | 2.09:1 - 2.40:1 - 2.77:1 | 2.09:1 - 2.40:1 | 2.04:1 - 2.50:1 - 2.94:1 | 1.53:1 - 2.08:1 |
| Reduction ratios (heavy duty)   | 2.09:1 - 2.40:1 - 2.77:1 | —               | 2.04:1 - 2.50:1 - 2.94:1 | 2.08:1 - 2.60:1 |
| Engine weight with transmission | 474 Kg                   | 474 Kg          | 500 Kg                   | 501 Kg          |

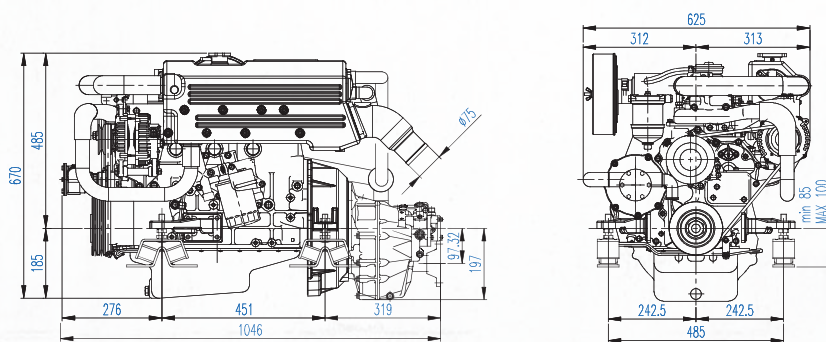
**graphs.****ENGINE TORQUE****POWER****FUEL CONSUMPTION**

Note: Power rating per ISO 3046/1





SN-110 with TM345



Dimensions in mm

**standard equipment.**

Instrument panel  
4 m electrical extension lead  
Oil extraction pump  
Engine Mounts  
Owner's Manual and Spare parts manual  
Heater inlet

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm**optional equipment.**

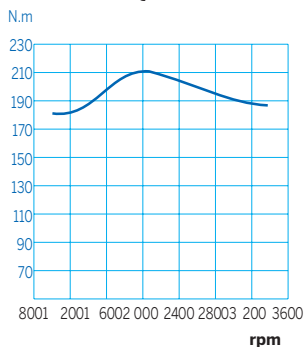
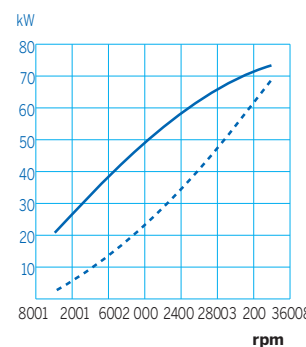
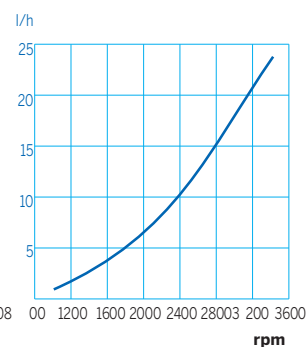
Twin instrument panel installation  
• Twin alternator  
• Two-pole electrical system  
• Dry exhaust system  
• Keel cooling  
• Power take-off shaft  
• Drivetrain: Propeller, shaft, sterntube  
• Water and diesel fuel filters  
• Water, exhaust, and diesel fuel hoses

**engine mount.****TYPE E**  
Part number 616.82.000**technical specifications.**

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Base                                       | NISSAN                            |
| Type                                       | Diesel, 4 stroke                  |
| Cylinders                                  | 4 in-line                         |
| Intake system                              | Naturally Aspirated               |
| Diameter x stroke (mm)                     | 99.2 x 102                        |
| Total displacement (cc)                    | 3153                              |
| Compression ratio                          | 22:1                              |
| Intermittent power rating (per ISO 3046/1) | 101 HP (74.3 kW)                  |
| Continuous output                          | 90.9 HP (66.9 kW)                 |
| Fuel injection system                      | Indirect                          |
| Alternator                                 | 12 V - 95A                        |
| Maximum working angle                      | 15° continuous / 20° intermittent |
| Int. Ø Salt water hose                     | 32 mm                             |
| Int. Ø Diesel fuel intake hose             | 8 mm                              |
| Int. Ø Diesel fuel return hose             | 7 mm                              |
| Certifications                             | EU RCD                            |

**transmissions.**

| Model                           | TM345           | TM345A          | TM93                     | TM93A           |
|---------------------------------|-----------------|-----------------|--------------------------|-----------------|
| Manufacturer                    | Technodrive     | Technodrive     | Technodrive              | Technodrive     |
| Type                            | Hydraulic       | Hydraulic       | Hydraulic                | Hydraulic       |
| Shaft angle                     | -               | 8°              | -                        | 8°              |
| Reduction ratios (leisure)      | 2.00:1 - 2.47:1 | 2.09:1 - 2.47:1 | 2.09:1 - 2.40:1 - 2.77:1 | 2.09:1 - 2.40:1 |
| Reduction ratios (heavy duty)   | 2.00:1          | 2.09:1          | 2.09:1 - 2.40:1 - 2.77:1 | 2.09:1 - 2.40:1 |
| Engine weight with transmission | 333 Kg          | 333 Kg          | 350 Kg                   | 350 Kg          |

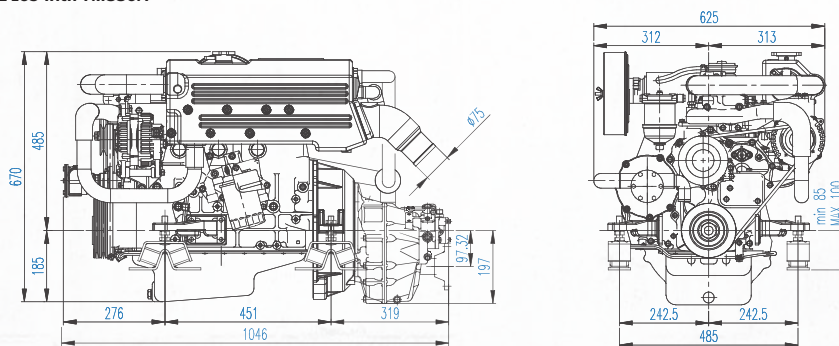
**graphs.****ENGINE TORQUE****POWER****FUEL CONSUMPTION**

Note: Power rating per ISO 3046/1





SDZ-165 with TM880A



Dimensions in mm

**standard equipment.**

Instrument panel  
4 m electrical extension lead  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm**optional equipment.**

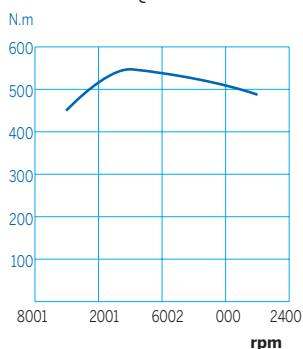
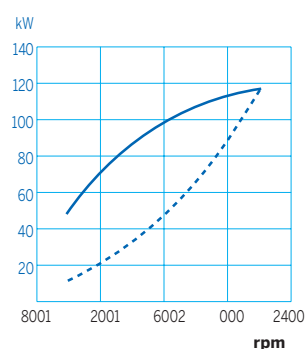
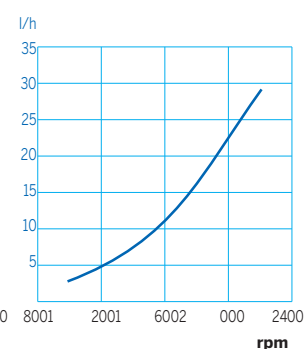
Twin instrument panel installation  
Twin alternator  
Two-pole electrical system  
Dry exhaust system  
Engine Mounts  
Keel cooling  
Power take-off shaft or pulley 4A or 4B  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

**technical specifications.**

|                                            |                              |
|--------------------------------------------|------------------------------|
| Base                                       | DEUTZ                        |
| Type                                       | Diesel, 4 stroke             |
| Cylinders                                  | 4 in-line                    |
| Intake system                              | Turbocharged and intercooler |
| Diameter x stroke (mm)                     | 108 x 130                    |
| Total displacement (cc)                    | 4764                         |
| Compression ratio                          | 17.6                         |
| Intermittent power rating (per ISO 3046/1) | 160 HP (118 kW)              |
| Continuous output                          | 144.3 HP (106.2 kW)          |
| Fuel injection system                      | Direct                       |
| Alternator                                 | 24 V - 55A                   |
| Maximum working angle                      | 10°                          |
| Int. Ø Salt water hose                     | 42 mm                        |
| Int. Ø Diesel fuel intake hose             | 12 mm                        |
| Int. Ø Diesel fuel return hose             | 12 mm                        |
| Certifications                             | EU RCD                       |

**transmissions.**

| Model                           | TM170                    | TM880A                   | TM265           | TM265A          | TM200           |
|---------------------------------|--------------------------|--------------------------|-----------------|-----------------|-----------------|
| Manufacturer                    | Technodrive              | Technodrive              | Technodrive     | Technodrive     | Technodrive     |
| Type                            | Hydraulic                | Hydraulic                | Hydraulic       | Hydraulic       | Hydraulic       |
| Shaft angle                     | –                        | 10°                      | –               | 7°              | –               |
| Reduction ratios (leisure)      | 2.04:1 - 2.50:1 - 2.94:1 | 1.53:1 - 2.08:1 - 2.60:1 | 2.09:1 - 2.82:1 | 2.00:1 - 2.30:1 | –               |
| Reduction ratios (heavy duty)   | 2.04:1                   | 1.53:1 - 2.08:1          | 2.09:1 - 2.82:1 | 2.00:1 - 2.30:1 | 3.60:1 - 4.48:1 |
| Engine weight with transmission | 646 Kg                   | 646                      | 729 Kg          | 729 Kg          | 790 Kg          |

**graphs.****ENGINE TORQUE****POWER****FUEL CONSUMPTION**

Note: Power rating per ISO 3046/1

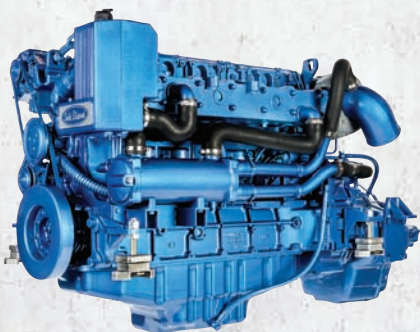
**engine mount.****TYPE C (optional)**  
Part number 616.91.000



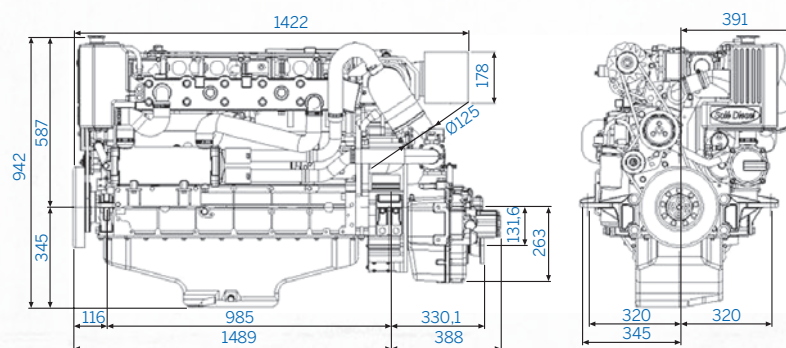
## SDZ-205

Engine base  **DEUTZ**

6 Cylinder 197 HP (145 KW) AT 2300 RPM



SDZ-165 with TM880A



Dimensions in mm

## standard equipment.

Instrument panel  
4 m electrical extension lead  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm

## optional equipment.

Twin instrument panel installation  
Twin alternator  
Two-pole electrical system  
Dry exhaust system  
Engine Mounts  
Keel cooling  
Power take-off shaft or pulley 4A or 4B  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

## technical specifications.

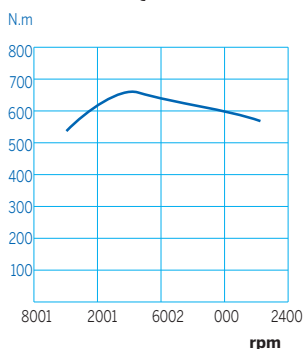
|                                            |                             |
|--------------------------------------------|-----------------------------|
| Base                                       | DEUTZ                       |
| Type                                       | Diesel, 4 stroke            |
| Cylinders                                  | 6 in-line                   |
| Intake system                              | Turbocharged                |
| Diameter x stroke (mm)                     | 108 x 130                   |
| Total displacement (cc)                    | 7146                        |
| Compression ratio                          | 17.6:1                      |
| Intermittent power rating (per ISO 3046/1) | 197 HP (145 kW)             |
| Continuous output                          | 179.9 HP (132.4 kW)         |
| Fuel injection system                      | Direct                      |
| Alternator                                 | 24 V - 55A                  |
| Maximum working angle                      | 10°                         |
| Int. Ø Salt water hose                     | 42 mm                       |
| Int. Ø Diesel fuel intake hose             | 12 mm                       |
| Int. Ø Diesel fuel return hose             | 12 mm                       |
| Certifications                             | EU RCD, EIAPP Tier II (IMO) |

## transmissions.

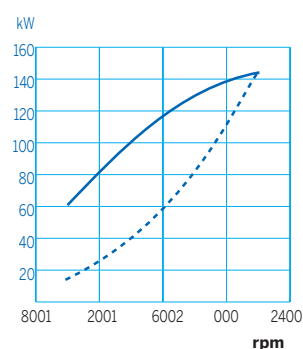
| Model                           | TM170       | TM880A                   | TM265           | TM265A          |
|---------------------------------|-------------|--------------------------|-----------------|-----------------|
| Manufacturer                    | Technodrive | Technodrive              | Technodrive     | Technodrive     |
| Type                            | Hydraulic   | Hydraulic                | Hydraulic       | Hydraulic       |
| Shaft angle                     | –           | 10°                      | –               | 7°              |
| Reduction ratios (leisure)      | 2.04:1      | 1.53:1 - 2.08:1 - 2.60:1 | 2.09:1 - 2.82:1 | 2.00:1 - 2.30:1 |
| Reduction ratios (heavy duty)   | 2.04:1      |                          | 2.09:1 - 2.82:1 | –               |
| Engine weight with transmission | 788 Kg      | 767 Kg                   | 871 Kg          | 871 Kg          |

## graphs.

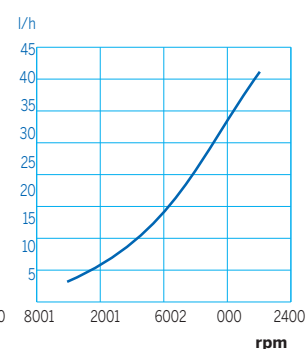
## ENGINE TORQUE



## POWER



## FUEL CONSUMPTION



Note: Power rating per ISO 3046/1

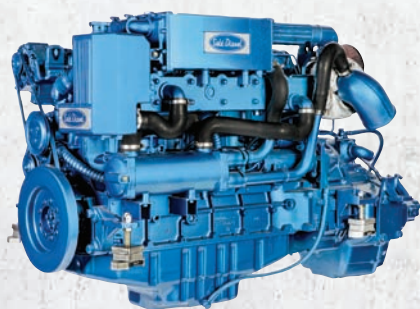
## engine mount.



**TYPE C (optional)**  
Part number 616.91.000



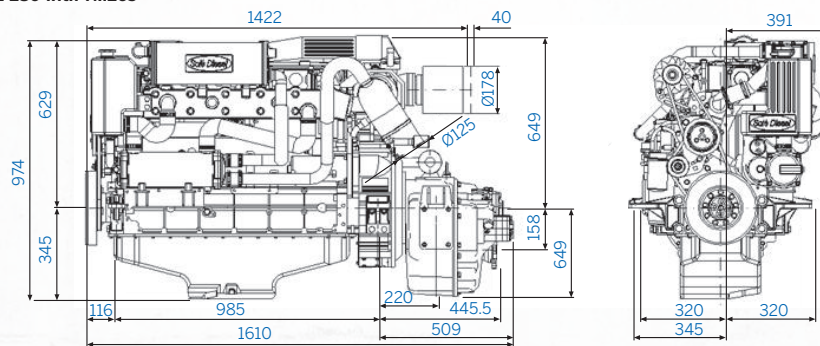
## SDZ-280



Engine base  **DEUTZ**  
272 HP (200 kW) AT 2300 RPM



SDZ-280 with TM265



Dimensions in mm

## standard equipment.

Instrument panel  
4 m electrical extension lead  
Oil extraction pump  
Owner's Manual and Spare parts manual

**Standard - TE2 instrument panel with:**

RPM Indicator  
Hour Counter  
Key start and stop with timed preheat indication  
Audible and visual alarm for high engine temperature, low oil pressure and battery charge  
Temperature Gauge, oil pressure Gauge and Voltmeter

Dimensions  
250 x 150 mm

## optional equipment.

Twin instrument panel installation  
Twin alternator  
Two-pole electrical system  
Dry exhaust system  
Engine Mounts  
Keel cooling  
Power take-off shaft or pulley 4A or 4B  
Heater inlet  
Drivetrain: Propeller, shaft, sterntube  
Water and diesel fuel filters  
Water, exhaust, and diesel fuel hoses

## engine mount.



**TYPE C (optional)**  
Part number 616.90.000

## technical specifications.

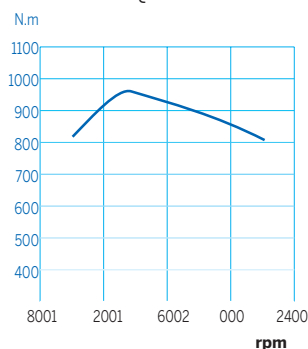
|                                            |                             |
|--------------------------------------------|-----------------------------|
| Base                                       | DEUTZ                       |
| Type                                       | Diesel, 4 stroke            |
| Cylinders                                  | 6 in-line                   |
| Intake system                              | Turbocharged                |
| Diameter x stroke (mm)                     | 108 x 130                   |
| Total displacement (cc)                    | 7146                        |
| Compression ratio                          | 17.6:1                      |
| Intermittent power rating (per ISO 3046/1) | 197 HP (145 kW)             |
| Continuous output                          | 179.9 HP (132.4 kW)         |
| Fuel injection system                      | Direct                      |
| Alternator                                 | 24 V - 55A                  |
| Maximum working angle                      | 10°                         |
| Int. Ø Salt water hose                     | 42 mm                       |
| Int. Ø Diesel fuel intake hose             | 12 mm                       |
| Int. Ø Diesel fuel return hose             | 12 mm                       |
| Certifications                             | EU RCD, EIAPP Tier II (IMO) |

## transmissions.

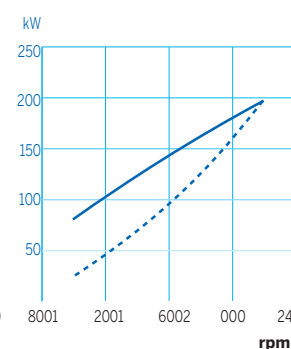
| Model                           | TM170       | TM880A                   | TM265           | TM265A          |
|---------------------------------|-------------|--------------------------|-----------------|-----------------|
| Manufacturer                    | Technodrive | Technodrive              | Technodrive     | Technodrive     |
| Type                            | Hydraulic   | Hydraulic                | Hydraulic       | Hydraulic       |
| Shaft angle                     | –           | 10°                      | –               | 7°              |
| Reduction ratios (leisure)      | 2.04:1      | 1.53:1 - 2.08:1 - 2.60:1 | 2.09:1 - 2.82:1 | 2.00:1 - 2.30:1 |
| Reduction ratios (heavy duty)   | 2.04:1      |                          | 2.09:1 - 2.82:1 | –               |
| Engine weight with transmission | 788 Kg      | 767 Kg                   | 871 Kg          | 871 Kg          |

## graphs.

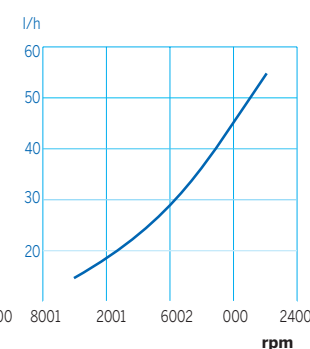
## ENGINE TORQUE



## POWER

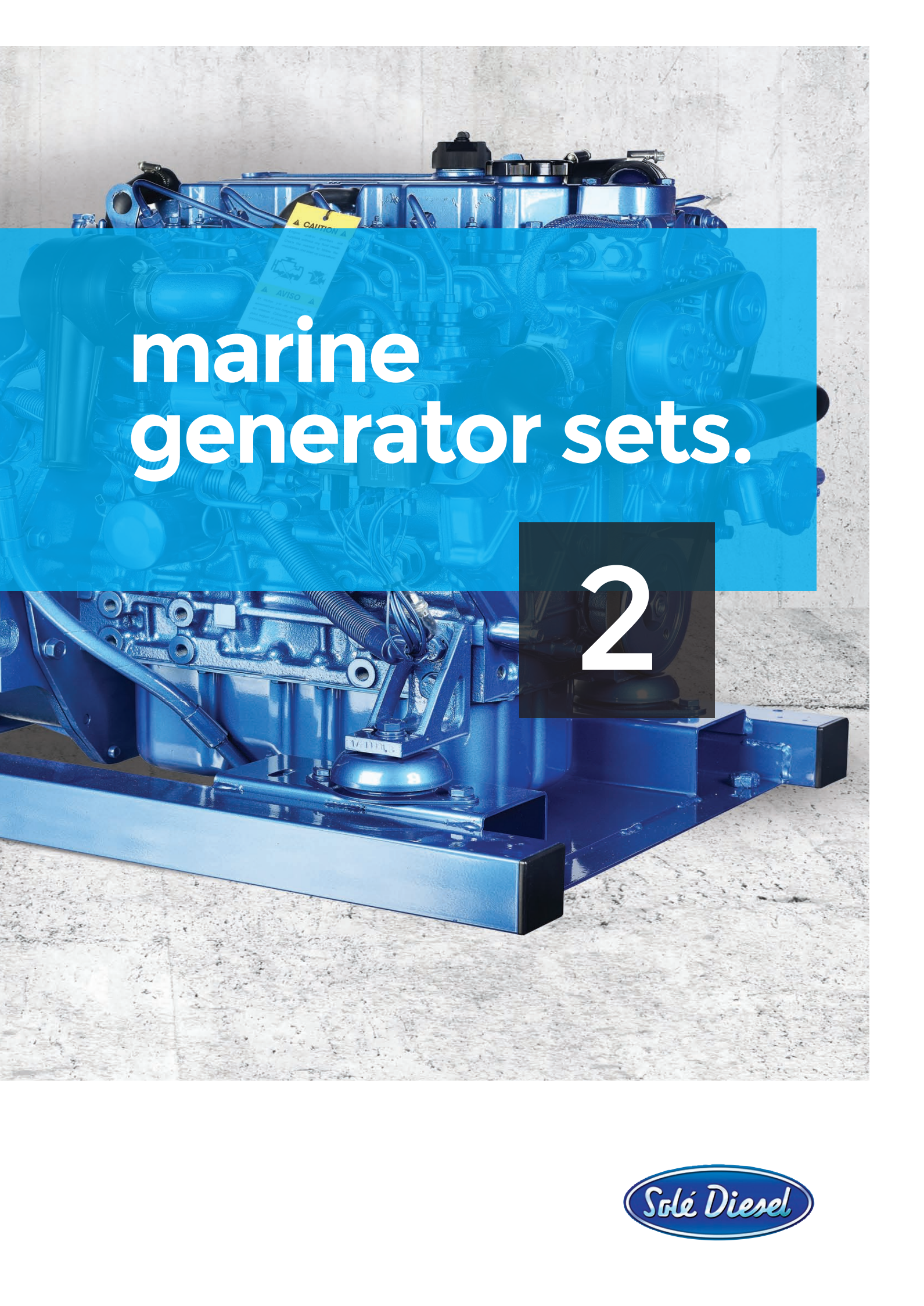


## FUEL CONSUMPTION



Note: Power rating per ISO 3046/1



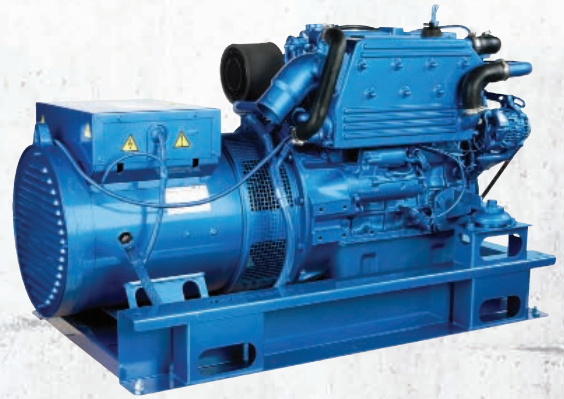
A blue marine generator set is shown against a light-colored wall. A blue semi-transparent rectangle is overlaid on the upper half of the image. Inside this rectangle, the text "marine generator sets." is written in white. A yellow caution tag with the word "CAUTION" and some text is attached to the generator. A large white number "2" is displayed in a dark blue square on the right side of the image.

# marine generator sets.

2







SOLE DIESEL PRODUCES ITS MARINE GENERATOR SETS AT 50HZ WITH POWER RATE WHICH RUNS FROM 6,6KVA (6,6KW) TO 112.4KVA (90KW), MEETING THE LATEST REQUIREMENTS ABOUT EMISSIONS REGULATIONS. THIS MARINE GENERATORS SETS ARE KNOWN IN THE MARKET BY ITS COMPACT SIZE, LOUDNESS LEVEL AND BY THE MOST RELIABLE ENGINE BASES WHICH ARE MOUNTED ON.

## RANGE 50 HZ AT 1,500 RPM

| Name       | Base engine | Power               | Phases | Frequency | RPM       |
|------------|-------------|---------------------|--------|-----------|-----------|
| 4 GSCH     | FA-6        | 4 kVA - 3.5 kW      | 1      | 50 Hz     | 3,000 rpm |
| 7 GS/GSC   | MINI-26     | 6.6 KVA - 6.6 kW    | 1      | 50 Hz     | 1,500 rpm |
| 8 GT/GTC   | MINI-26     | 7.8 KVA - 6.3 kW    | 3      | 50 Hz     | 1,500 rpm |
| 10 GS/GSC  | MINI-33     | 9.4 KVA - 9.4 kW    | 1      | 50 Hz     | 1,500 rpm |
| 11 GT/GTC  | MINI-33     | 10.5 KVA - 8.4 kW   | 3      | 50 Hz     | 1,500 rpm |
| 14 GS/GSC  | MINI-44     | 13.9 KVA - 13.9 kW  | 1      | 50 Hz     | 1,500 rpm |
| 17 GT/GTC  | MINI-44     | 16.4 KVA - 13.2 kW  | 3      | 50 Hz     | 1,500 rpm |
| 20 GS/GSC  | MINI-63     | 20.1 KVA - 20.1 kW  | 1      | 50 Hz     | 1,500 rpm |
| 25 GT/GTC  | MINI-63     | 24.3 KVA - 19.5 kW  | 3      | 50 Hz     | 1,500 rpm |
| 29 GS/GSC  | MINI-74     | 28.4 KVA - 28.4 kW  | 1      | 50 Hz     | 1,500 rpm |
| 35 GT/GTC  | MINI-74     | 35.0 KVA - 28.0 kW  | 3      | 50 Hz     | 1,500 rpm |
| 50 GT/GTC  | SM-105      | 48.9 KVA - 39.2 kW  | 3      | 50 Hz     | 1,500 rpm |
| 85 GT/GTC  | SDZ-109     | 85.0 KVA - 68.0 kW  | 3      | 50 Hz     | 1,500 rpm |
| 115 GT/GTC | SDZ-165     | 112.4 KVA - 90.0 kW | 3      | 50 Hz     | 1,500 rpm |

## RANGE 60 HZ AT 1,800 RPM

| Name         | Base engine | Power               | Phases | Frequency | RPM       |
|--------------|-------------|---------------------|--------|-----------|-----------|
| 8 GSA/GSAC   | MINI-26     | 8.0 KVA - 8.0 kW    | 1      | 60 Hz     | 1,800 rpm |
| 10 GTA/GTAC  | MINI-26     | 9.4 KVA - 7.6 kW    | 3      | 60 Hz     | 1,800 rpm |
| 12 GSA/GSAC  | MINI-33     | 12.0 KVA - 12.0 kW  | 1      | 60 Hz     | 1,800 rpm |
| 14 GTA/GTAC  | MINI-33     | 13.6 KVA - 10.9 kW  | 3      | 60 Hz     | 1,800 rpm |
| 17 GSA/GSAC  | MINI-44     | 16.4 KVA - 16.4 kW  | 1      | 60 Hz     | 1,800 rpm |
| 20 GTA/GTAC  | MINI-44     | 19.5 KVA - 15.6 kW  | 3      | 60 Hz     | 1,800 rpm |
| 25 GSA/GSAC  | MINI-63     | 25.1 KVA - 25.1 kW  | 1      | 60 Hz     | 1,800 rpm |
| 30 GTA/GTAC  | MINI-63     | 30.0 KVA - 24.0 kW  | 3      | 60 Hz     | 1,800 rpm |
| 32 GSA/GSAC  | MINI-74     | 31.6 KVA - 31.6 kW  | 1      | 60 Hz     | 1,800 rpm |
| 40 GTA/GTAC  | MINI-74     | 39.0 KVA - 31.2 kW  | 3      | 60 Hz     | 1,800 rpm |
| 60 GTA/GTAC  | SM-105      | 58.3 KVA - 46.7 kW  | 3      | 60 Hz     | 1,800 rpm |
| 100 GTA/GTAC | SDZ-109     | 97.3 KVA - 77.9 kW  | 3      | 60 Hz     | 1,800 rpm |
| 120 GTA/GTAC | SDZ-165     | 120.0 KVA - 96.0 kW | 3      | 60 Hz     | 1,800 rpm |

## PARALLEL OPERATION SYSTEM

| Name         | Base engine | Power               | Phases | Frequency | RPM       |
|--------------|-------------|---------------------|--------|-----------|-----------|
| 85 GT/GTC    | SDZ-109     | 85.0 kVA - 68.0 kW  | 3      | 50 Hz     | 1,500 rpm |
| 115 GT/GTC   | SDZ-165     | 112.4 kVA - 90.0 kW | 3      | 50 Hz     | 1,500 rpm |
| 100 GTA/GTAC | SDZ-109     | 97.3 kVA - 77.9 kW  | 3      | 60 Hz     | 1,800 rpm |
| 120 GTA/GTAC | SDZ-165     | 120.0 kVA - 96.0 kW | 3      | 60 Hz     | 1,800 rpm |





## control panel.

## SCO 10



Measures  
180x120x55 mm

weight  
450g

## TECHNICAL DATA

Sea water hose intake: Ø12mm  
Fuel hose intake: Ø8mm  
Diesel Fuel return hose: Ø8mm  
Exhaust hose: Ø40mm  
Panel connection

technical  
specifications.

## PHASE

## Model and ratings

|             |      |
|-------------|------|
| kW          | 3,5  |
| kVA         | 4    |
| Voltage (V) | 230  |
| Amps (A)    | 17,4 |
| Phases      | 1    |
| Hz          | 50   |
| Engine RPM  | 3000 |

Sound level (dB) Canopy

|       |    |
|-------|----|
| 50 Hz | 54 |
|-------|----|

## Dimensions (mm)

|                            |     |
|----------------------------|-----|
| <small>With canopy</small> |     |
| Length                     | 631 |
| Width                      | 394 |
| Height                     | 543 |
| weight (Dry) (Kg)          | 83  |

## ALTERNATOR

|                               |                                         |
|-------------------------------|-----------------------------------------|
| Brand                         | V.T.E                                   |
| Brand Model                   | -                                       |
| Regulator type                | -                                       |
| Nr of poles                   | 2                                       |
| Insulation Type*              | -                                       |
| IP protection                 | -                                       |
| Cos phi                       | 0,875                                   |
| Tropicalización               | Standard                                |
| Excitation system             | Brushless                               |
| Voltage regulation Accuracy** | ffl 1%                                  |
| Frequency Regulation          | Synchronous                             |
| Standards                     | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

## ENGINE

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | FARYMAN                     |
| Sole Engine Model     | FA-6                        |
| Type                  | 4 stroke                    |
| Cylinder              | 1                           |
| Displacement          | 290 cc                      |
| Bore and Stroke       | 82x55 mm                    |
| Compression ratio     | 20:1                        |
| Injection             | Direct                      |
| Aspiration type       | Aspirated                   |
| Lube Oil capacity (L) | 1,2                         |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |

|               |           |
|---------------|-----------|
| RPM           | 3000      |
| Power (Hp/kW) | 5,8 / 4,3 |

## Typical fuel consumption

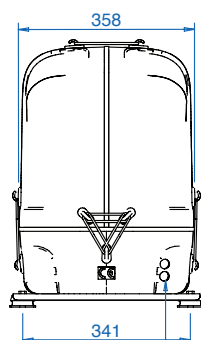
|      |     |
|------|-----|
| 25%  | 0,4 |
| 50%  | 0,7 |
| 75%  | 1,1 |
| 100% | 1,4 |

Diesel Liters/h at % load

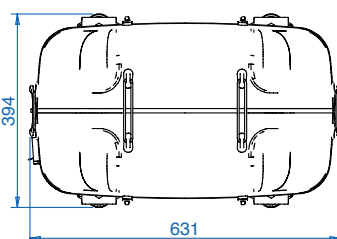
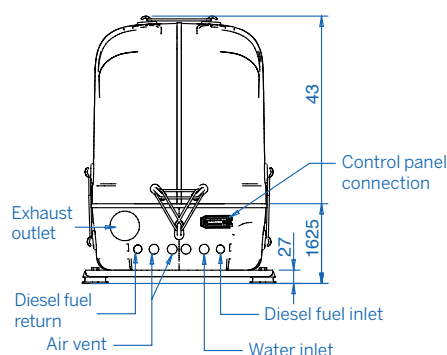
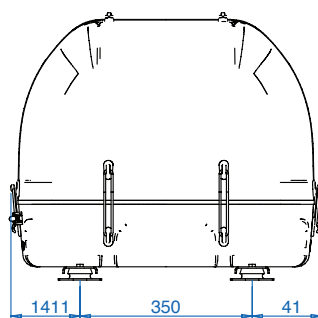
## Engine Electrical

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 1,2        |
| Alternator (A)        | -          |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |

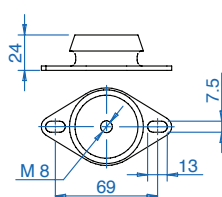
## canopy version.



Battery  
(12V)



suspensory



Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)



**7GS/GSC**  
6,6 kVA (6,6 kW) 50 Hz**8GSA/GSAC**  
8 kVA (8 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**technical  
specifications.**

Model

**7GS****7GSC****8GSA****8GSAC****PHASE****Model and ratings**

|            |      |      |
|------------|------|------|
| kW         | 6,6  | 8    |
| kVA        | 6,6  | 8    |
| Voltage    | 230  | 240  |
| Amps       | 29,0 | 34,0 |
| Phases     | 1    | 1    |
| Hz         | 50   | 60   |
| Engine RPM | 1500 | 1800 |

**Sound level (dB)** *Canopy version*

|       |    |
|-------|----|
| 50 Hz | 51 |
| 50 Hz | 51 |

**Size and Weight (Kg)***Canopy version*

|                         |     |
|-------------------------|-----|
| Lenght                  | 892 |
| Width                   | 560 |
| Height                  | 608 |
| Weight (Dry)            | 220 |
| <i>standard version</i> |     |
| Lenght                  | 756 |
| Width                   | 560 |
| Height                  | 561 |
| Weight (Dry)            | 198 |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160SZ1                               |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 1                                       |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                            |
|-----------------------|----------------------------|
| Base                  | MITSUBISHI                 |
| Sole Engine Model     | MINI-26                    |
| Type                  | 4 stroke                   |
| Cylinders             | 3                          |
| Displacement          | 952 cc                     |
| Bore x Stroke         | 76x70 mm                   |
| Compression ratio     | 23:1                       |
| Injection             | Indirect                   |
| Aspiration type       | Naturally aspirated        |
| Lube Oil capacity (L) | 4                          |
| Oil Type              | ACEA E5/API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 3,5                        |
| Housing               | SAE 5                      |
| Flywheel              | SAE 6 1/2                  |

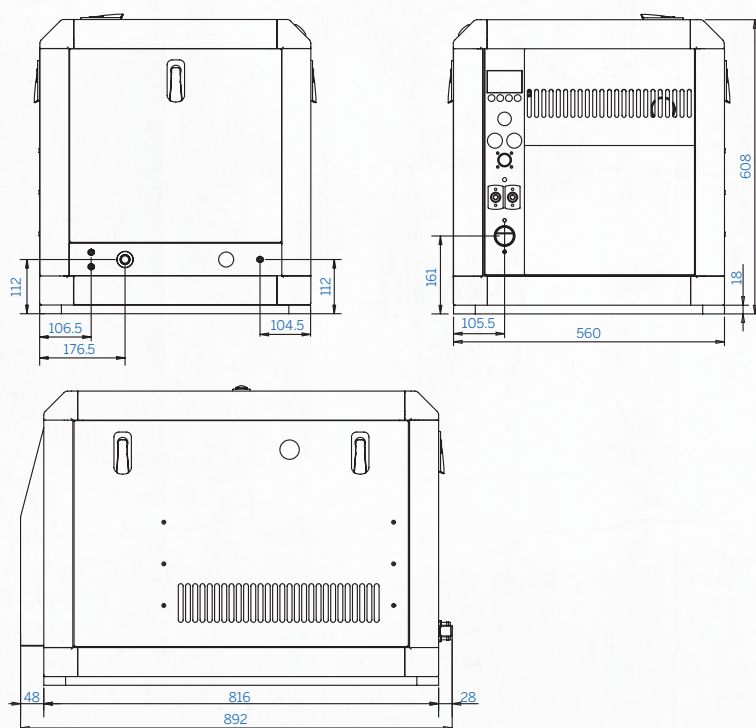
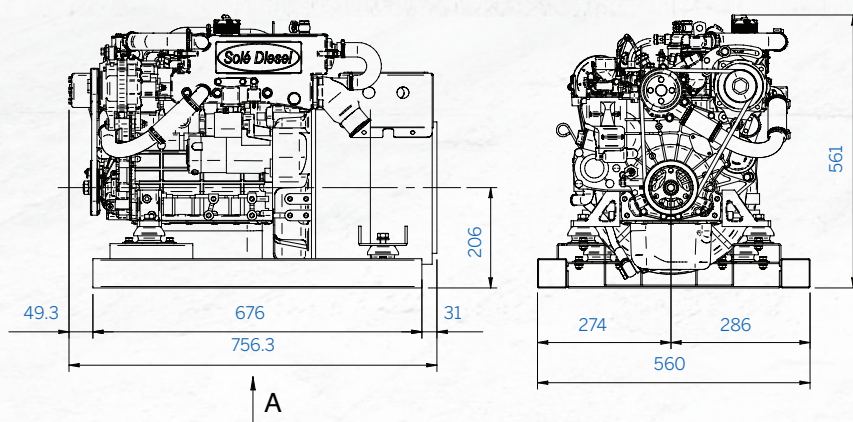
|                                                   | 50 Hz      | 60 Hz      |
|---------------------------------------------------|------------|------------|
| RPM                                               | 1500       | 1800       |
| Power (HP/kW)                                     | 10,7 / 7,9 | 13,0 / 9,6 |
| Coolant flow rate (L/min)                         | 22,5       | 27         |
| Raw water rate (L/min)                            | 15,6       | 18,72      |
| Engine/generator intake air requirements (m3/min) | 3,5        | 4,3        |

**Typical fuel consumption**

|      |      |      |
|------|------|------|
| 25%  | 0,9  | 1,1  |
| 50%  | 1,48 | 1,92 |
| 75%  | 2,07 | 2,52 |
| 100% | 2,56 | 3,14 |

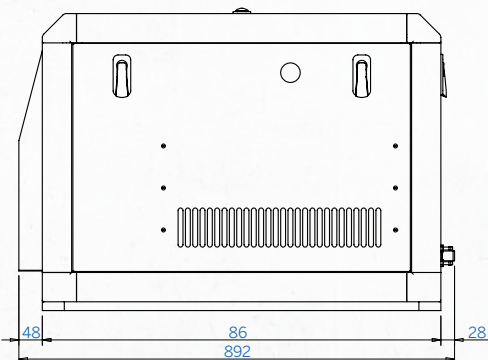
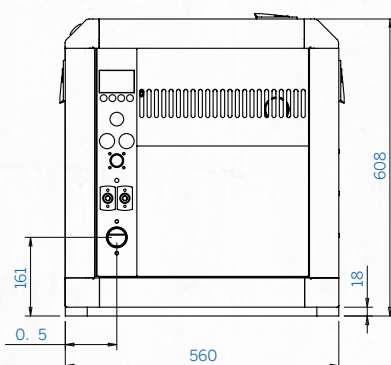
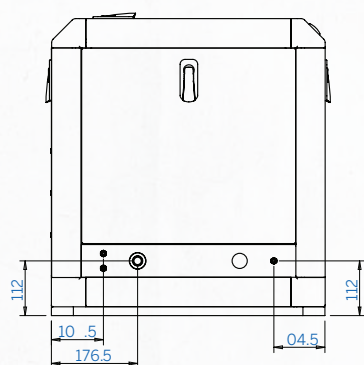
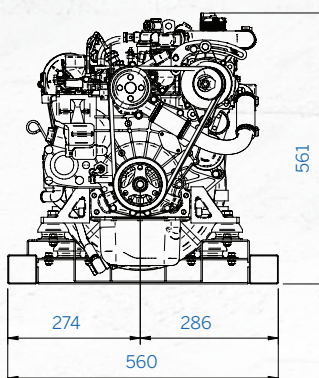
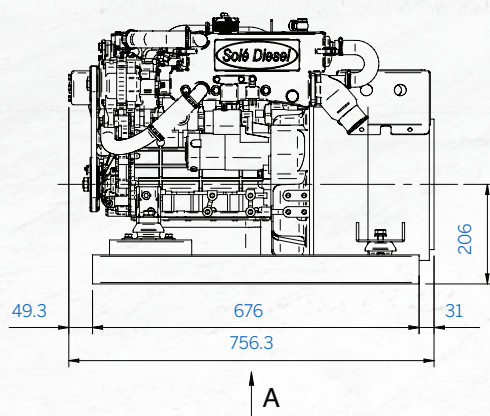
*Diesel Liters/h at % load***Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 1,2        |
| Alternator (A)        | 40         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |

**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)



**8GT/GTC**  
7,8 kVA (6,3 kW) 50 Hz**10GTA/GTAC**  
9,4 kVA (7,6 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)

**technical specifications.**

| Model | 8GT<br>8GTC | 10GTA<br>10GTAC |
|-------|-------------|-----------------|
|-------|-------------|-----------------|

**PHASE****Model and ratings**

|            |         |         |
|------------|---------|---------|
| kW         | 6,3     | 7,6     |
| kVA        | 7,8     | 9,4     |
| Voltage    | 400/230 | 480/277 |
| Amps       | 12,0    | 12,0    |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

**Sound level (dB)** *Canopy version*

|       |    |
|-------|----|
| 50 Hz | 51 |
| 50 Hz | 51 |

**Size and Weight (Kg)**

|                  |     |
|------------------|-----|
| Canopy version   |     |
| Length           | 892 |
| Width            | 560 |
| Height           | 608 |
| Weight (Dry)     | 224 |
| standard version |     |
| Length           | 756 |
| Width            | 560 |
| Height           | 561 |
| Weight (Dry)     | 201 |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160SA                                |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 0,8                                     |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | MITSUBISHI                  |
| Sole Engine Model     | MINI-26                     |
| Type                  | 4 stroke                    |
| Cylinders             | 3                           |
| Displacement          | 952 cc                      |
| Bore x Stroke         | 76x70 mm                    |
| Compression ratio     | 23:1                        |
| Injection             | Indirect                    |
| Aspiration type       | Naturally aspirated         |
| Lube Oil capacity (L) | 4                           |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 3,5                         |
| Housing               | SAE 5                       |
| Flywheel              | SAE 6 1/2                   |

|                                                   | 50 Hz      | 60 Hz      |
|---------------------------------------------------|------------|------------|
| RPM                                               | 1500       | 1800       |
| Power (HP/kW)                                     | 10,7 / 7,9 | 13,0 / 9,6 |
| Coolant flow rate (L/min)                         | 22,5       | 27         |
| Raw water rate (L/min)                            | 15,6       | 18,72      |
| Engine/generator intake air requirements (m3/min) | 3,5        | 4,3        |

**Typical fuel consumption**

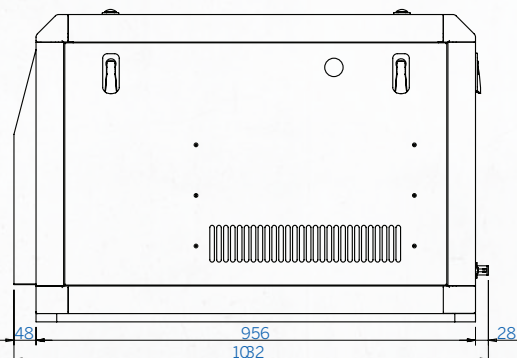
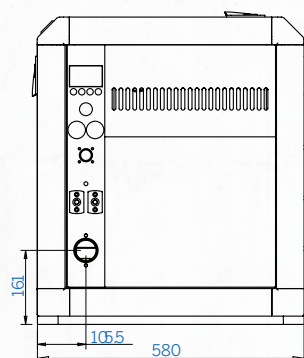
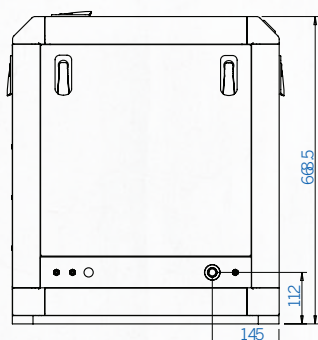
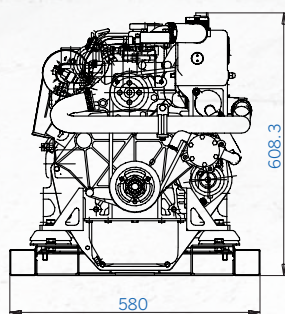
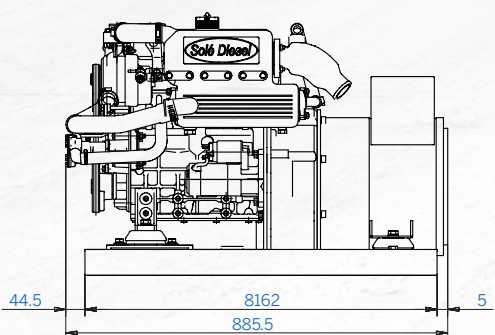
|      |     |     |
|------|-----|-----|
| 25%  | 0,8 | 0,8 |
| 50%  | 1,1 | 1,1 |
| 75%  | 1,5 | 1,5 |
| 100% | 1,8 | 1,8 |

Diesel Liters/h at % load

**Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 1,2        |
| Alternator (A)        | 40         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |



**10GS/GSC**  
9,4 kVA (9,4 kW) 50 Hz**12GSA/GSAC**  
12 kVA (12 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.****technical specifications.**

## Model

|  | 10GS<br>10GSC | 12GSA<br>12GSAC |
|--|---------------|-----------------|
|--|---------------|-----------------|

**PHASE****Model and ratings**

|            |      |      |
|------------|------|------|
| kW         | 9,4  | 12   |
| kVA        | 9,4  | 12   |
| Voltage    | 230  | 240  |
| Amps       | 41,0 | 50,0 |
| Phases     | 1    | 1    |
| Hz         | 50   | 60   |
| Engine RPM | 1500 | 1800 |

**Sound level (dB)** Canopy version

|       |    |
|-------|----|
| 50 Hz | 54 |
| 50 Hz | 54 |

**Size and Weight (Kg)**

|                  |      |
|------------------|------|
| Canopy version   |      |
| Length           | 1032 |
| Width            | 580  |
| Height           | 669  |
| Weight (Dry)     | 308  |
| standard version |      |
| Length           | 885  |
| Width            | 580  |
| Height           | 599  |
| Weight (Dry)     | 271  |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160CA1                               |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 1                                       |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | MITSUBISHI                  |
| Sole Engine Model     | MINI-33                     |
| Type                  | 4 stroke                    |
| Cylinders             | 3                           |
| Displacement          | 1318 CC                     |
| Bore x Stroke         | 78x92 mm                    |
| Compression ratio     | 22:1                        |
| Injection             | Indirect                    |
| Aspiration type       | Naturally aspirated         |
| Lube Oil capacity (L) | 4,2                         |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 6,25                        |
| Housing               | SAE 5                       |
| Flywheel              | SAE 7 1/2                   |

|                                                   | 50 Hz      | 60 Hz      |
|---------------------------------------------------|------------|------------|
| RPM                                               | 1500       | 1800       |
| Power (HP/kW)                                     | 15,2 /11,2 | 18,8 /13,8 |
| Coolant flow rate (L/min)                         | 40         | 47         |
| Raw water rate (L/min)                            | 18         | 21         |
| Engine/generator intake air requirements (m3/min) | 3,8        | 4          |

**Typical fuel consumption**

|      |     |     |
|------|-----|-----|
| 25%  | 1,2 | 1,4 |
| 50%  | 1,6 | 2,2 |
| 75%  | 2   | 2,6 |
| 100% | 2,5 | 3,2 |

Diesel Liters/h at % load

**Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 1,7        |
| Alternator (A)        | 50         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |



**11GT/GTC**

10,5 kVA (8,4 kW) 50 Hz

**14GTA/GTAC**

13,6 kVA (10,9 kW) 60 Hz

**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**technical  
specifications.**

Model

**11GT  
11GTC****14GTA  
14GTAC****PHASE****Model and ratings**

|            |         |         |
|------------|---------|---------|
| kW         | 8,4     | 10,9    |
| kVA        | 10,5    | 13,6    |
| Voltage    | 400/230 | 480/277 |
| Amps       | 16,0    | 17      |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

**Sound level (dB)** *Canopy version*

|       |    |
|-------|----|
| 50 Hz | 54 |
| 50 Hz | 54 |

**Size and Weight (Kg)***Canopy version*

|                  |       |
|------------------|-------|
| Lenght           | 1032  |
| Width            | 580   |
| Height           | 668   |
| Weight (Dry)     | 300   |
| standard version |       |
| Lenght           | 885,5 |
| Width            | 580   |
| Height           | 599   |
| Weight (Dry)     | 264   |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160CA                                |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 0,8                                     |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                            |
|-----------------------|----------------------------|
| Base                  | MITSUBISHI                 |
| Sole Engine Model     | MINI-33                    |
| Type                  | 4 stroke                   |
| Cylinders             | 3                          |
| Displacement          | 1318 CC                    |
| Bore x Stroke         | 78x92 mm                   |
| Compression ratio     | 22:1                       |
| Injection             | Indirect                   |
| Aspiration type       | Naturally aspirated        |
| Lube Oil capacity (L) | 4,2                        |
| Oil Type              | ACEA E5/API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 6,25                       |
| Housing               | SAE 5                      |
| Flywheel              | SAE 7 1/2                  |

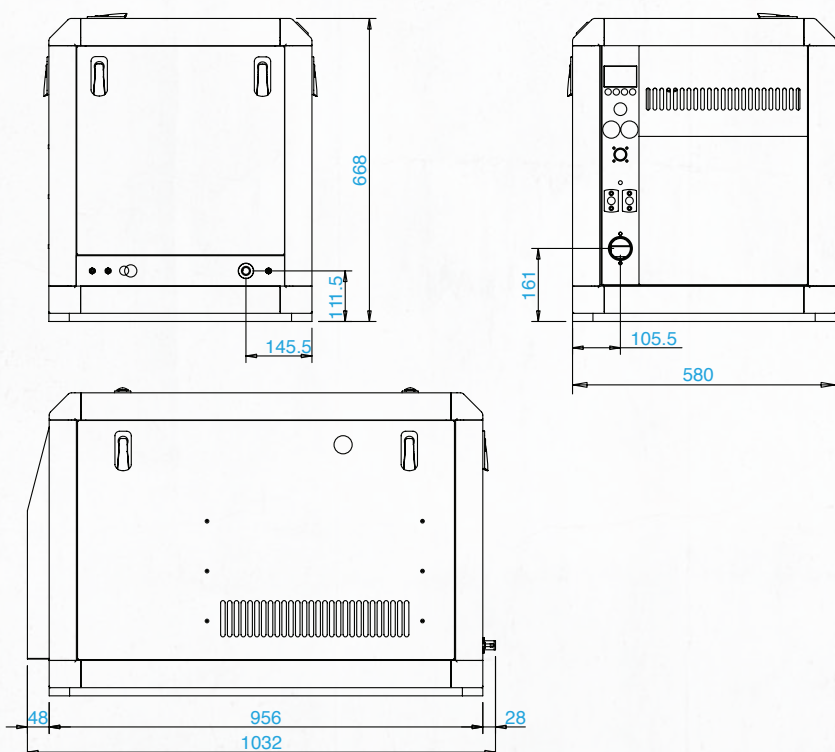
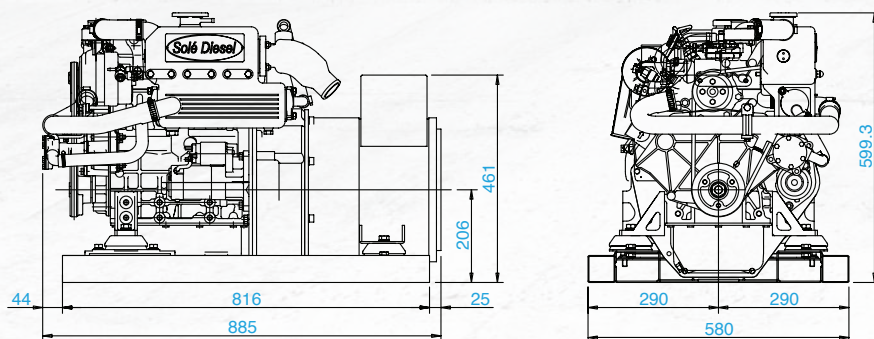
|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 15,2/11,2 | 18,8/13,8 |
| Coolant flow rate (L/min)                         | 40        | 47        |
| Raw water rate (L/min)                            | 18        | 21        |
| Engine/generator intake air requirements (m3/min) | 3,8       | 4         |

**Typical fuel consumption**

|      |     |     |
|------|-----|-----|
| 25%  | 1   | 1,3 |
| 50%  | 1,3 | 2   |
| 75%  | 1,6 | 2,4 |
| 100% | 2,1 | 2,9 |

*Diesel Liters/h at % load***Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 1,7        |
| Alternator (A)        | 50         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |

**canopy version.****standard version.**



**14GS/GSC**  
13,9 kVA (13,9 kW) 50 Hz**17GSA/GSAC**  
16,4 kVA (16,4 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**technical  
specifications.**

Model

**14GS  
14GSC****17GSA  
17GSAC****PHASE****Model and ratings**

|            |      |      |
|------------|------|------|
| kW         | 13,9 | 16,4 |
| kVA        | 13,9 | 16,4 |
| Voltage    | 230  | 240  |
| Amps       | 61,0 | 69,0 |
| Phases     | 1    | 1    |
| Hz         | 50   | 60   |
| Engine RPM | 1500 | 1800 |

**Sound level (dB)** *Canopy version*

|       |    |
|-------|----|
| 50 Hz | 54 |
| 60 Hz | 54 |

**Size and Weight (Kg)***Canopy version*

|                         |      |
|-------------------------|------|
| Lenght                  | 1181 |
| Width                   | 580  |
| Height                  | 668  |
| Weight (Dry)            | 344  |
| <i>standard version</i> |      |
| Lenght                  | 1036 |
| Width                   | 580  |
| Height                  | 602  |
| Weight (Dry)            | 294  |

**ALTERNATOR**

|                             |                                           |
|-----------------------------|-------------------------------------------|
| Brand                       | SINCRO                                    |
| Model                       | SK 160MA1                                 |
| Regulator type              | AVR BL4 electronic                        |
| Nr. of poles                | 4                                         |
| Insulation Type             | H                                         |
| IP protection               | 23                                        |
| Cos phi                     | 1                                         |
| Tropicalization             | Standard                                  |
| Excitation system           | Brushless                                 |
| Voltage regulation Accuracy | ffl 1%                                    |
| Frequency Regulation        | Synchronous                               |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3vv |

**ENGINE specification**

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | MITSUBISHI                  |
| Sole Engine Model     | MINI-44                     |
| Type                  | 4 stroke                    |
| Cylinders             | 4                           |
| Displacement          | 1758 cc                     |
| Bore x Stroke         | 78x92 mm                    |
| Compression ratio     | 22:1                        |
| Injection             | Indirect                    |
| Aspiration type       | Naturally aspirated         |
| Lube Oil capacity (L) | 6                           |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 8                           |
| Housing               | SAE 5                       |
| Flywheel              | SAE 7 1/2                   |

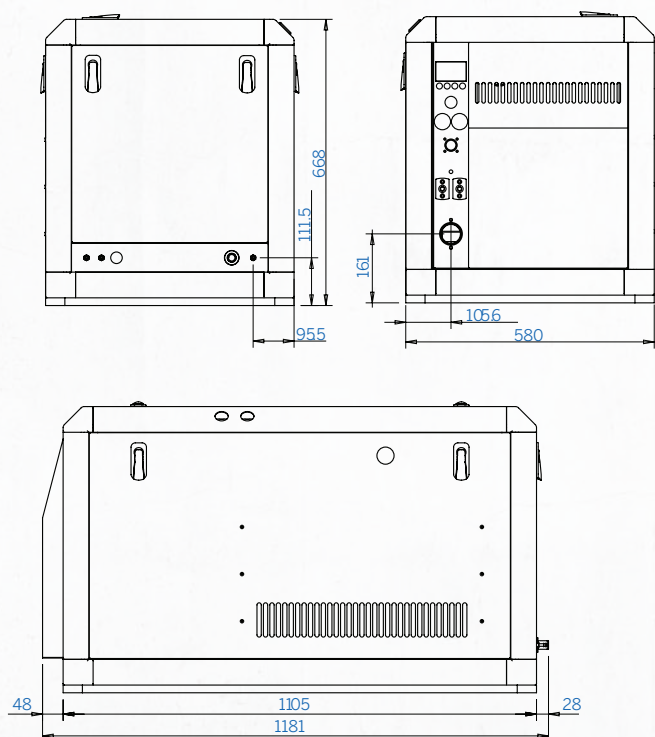
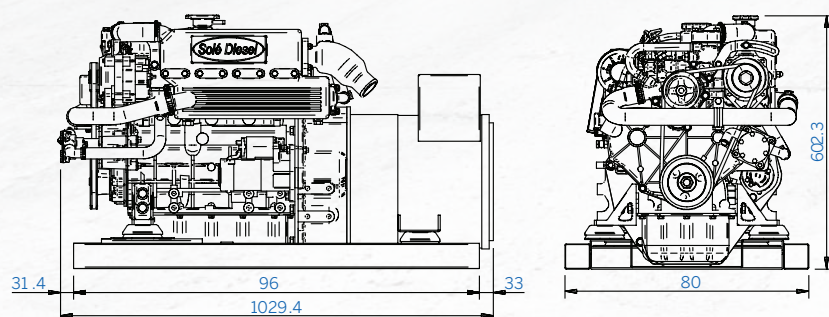
|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 22,1/15,5 | 25,0/18,4 |
| Coolant flow rate (L/min)                         | 55        | 66        |
| Raw water rate (L/min)                            | 18        | 21        |
| Engine/generator intake air requirements (m3/min) | 4         | 4         |

**Typical fuel consumption**

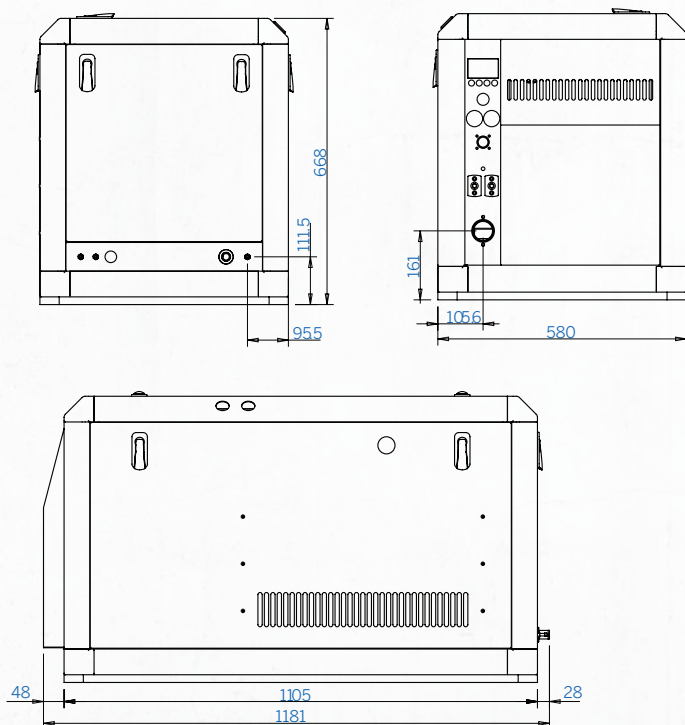
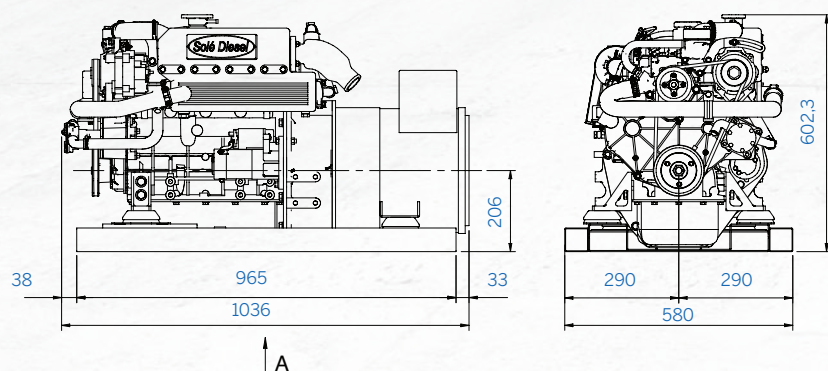
|      |     |     |
|------|-----|-----|
| 25%  | 1,6 | 1,8 |
| 50%  | 2,1 | 2,7 |
| 75%  | 2,7 | 3,3 |
| 100% | 3,4 | 4   |

*Diesel Liters/h at % load***Engine Electrical**

|                       |                                  |
|-----------------------|----------------------------------|
| Electrical System (V) | 12                               |
| Starter Motor (kW)    | 0                                |
| Alternator (A)        | 50                               |
| Shutdown system       | Electrical                       |
| Stop Solenoid Type    | ETR (ETS earth isolated version) |

**canopy version.****standard version.**



**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.sofediesel.com](http://www.sofediesel.com)

**technical specifications.**

| Model | 17GT<br>17GTC | 20GTA<br>20GTAC |
|-------|---------------|-----------------|
|-------|---------------|-----------------|

**PHASE****Model and ratings**

|            |         |         |
|------------|---------|---------|
| kW         | 13,2    | 15,6    |
| kVA        | 16,4    | 19,5    |
| Voltage    | 400/230 | 480/277 |
| Amps       | 24,0    | 24,0    |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

**Sound level (dB)** Canopy version

|       |    |
|-------|----|
| 50 Hz | 54 |
| 50 Hz | 56 |

**Size and Weight (Kg)**

|                  |      |
|------------------|------|
| Canopy version   |      |
| Lenght           | 1181 |
| Width            | 580  |
| Height           | 668  |
| Weight (Dry)     | 344  |
| standard version |      |
| Lenght           | 1036 |
| Width            | 580  |
| Height           | 602  |
| Weight (Dry)     | 282  |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160MA                                |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 0,8                                     |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                            |
|-----------------------|----------------------------|
| Base                  | MITSUBISHI                 |
| Sole Engine Model     | MINI-44                    |
| Type                  | 4 stroke                   |
| Cylinders             | 4                          |
| Displacement          | 1758 cc                    |
| Bore x Stroke         | 78x92 mm                   |
| Compression ratio     | 22:1                       |
| Injection             | Indirect                   |
| Aspiration type       | Naturally aspirated        |
| Lube Oil capacity (L) | 6                          |
| Oil Type              | ACEA E5/API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 8                          |
| Housing               | SAE 5                      |
| Flywheel              | SAE 7 1/2                  |

|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 22,1/15,5 | 25,0/18,4 |
| Coolant flow rate (L/min)                         | 55        | 66        |
| Raw water rate (L/min)                            | 18        | 21        |
| Engine/generator intake air requirements (m3/min) | 4         | 4         |

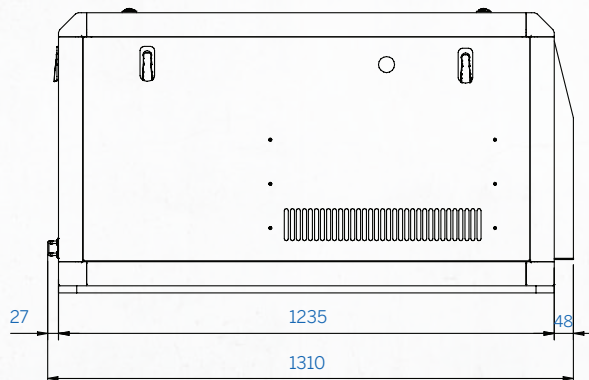
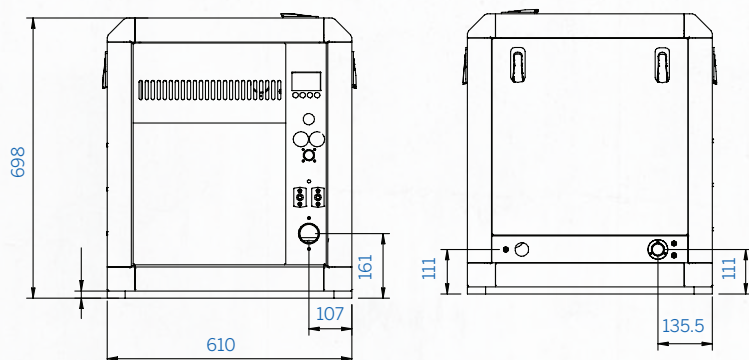
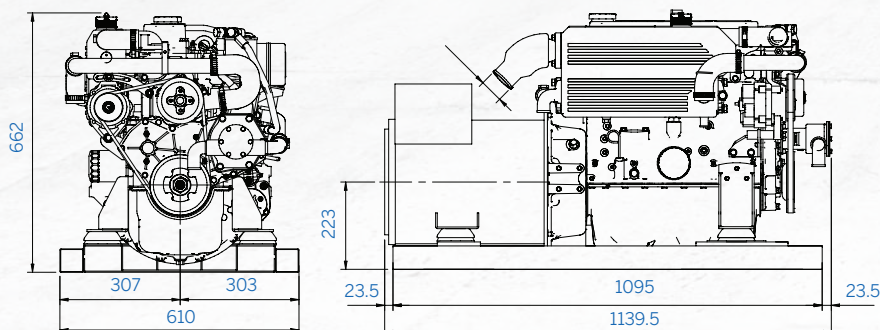
**Typical fuel consumption**

|      |     |     |
|------|-----|-----|
| 25%  | 1,6 | 1,8 |
| 50%  | 2,1 | 2,7 |
| 75%  | 2,7 | 3,3 |
| 100% | 3,4 | 4   |

Diesel Liters/h at % load

**Engine Electrical**

|                       |                                  |
|-----------------------|----------------------------------|
| Electrical System (V) | 12                               |
| Starter Motor (kW)    | 0                                |
| Alternator (A)        | 50                               |
| Shutdown system       | Electrical                       |
| Stop Solenoid Type    | ETR (ETS earth isolated version) |

**20GS/GSC**  
20 kVA (20 kW) 50 Hz**25GSA/GSAC**  
25 kVA (25 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.****technical  
specifications.**

## Model

|  | 20GS<br>20GSC | 25GSA<br>25GSAC |
|--|---------------|-----------------|
|--|---------------|-----------------|

**PHASE****Model and ratings**

|            |      |       |
|------------|------|-------|
| kW         | 20   | 25    |
| kVA        | 20   | 25    |
| Voltage    | 230  | 240   |
| Amps       | 87.4 | 104.6 |
| Phases     | 1    | 1     |
| Hz         | 50   | 60    |
| Engine RPM | 1500 | 1800  |

**Sound level (dB)** *Canopy version*

|       |    |
|-------|----|
| 50 Hz | 56 |
| 50 Hz | 56 |

**Size and Weight (Kg)**

|                         |      |
|-------------------------|------|
| <i>Canopy version</i>   |      |
| Lenght                  | 1310 |
| Width                   | 610  |
| Height                  | 698  |
| Weight (Dry)            | 426  |
| <i>standard version</i> |      |
| Lenght                  | 1139 |
| Width                   | 610  |
| Height                  | 662  |
| Weight (Dry)            | 402  |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160LA1                               |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 1                                       |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | MITSUBISHI                  |
| Sole Engine Model     | MINI-63                     |
| Type                  | 4 stroke                    |
| Cylinders             | 4                           |
| Displacement          | 2505 cc                     |
| Bore x Stroke         | 88x103 mm                   |
| Compression ratio     | 22:1                        |
| Injection             | Indirect                    |
| Aspiration type       | Naturally aspirated         |
| Lube Oil capacity (L) | 6.5                         |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 9.5                         |
| Housing               | SAE 5                       |
| Flywheel              | SAE 8                       |

|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 29.8/22.2 | 36.5/27.2 |
| Coolant flow rate (L/min)                         | 51        | 63        |
| Raw water rate (L/min)                            | 37.5      | 45        |
| Engine/generator intake air requirements (m3/min) | 5         | 6.2       |

**Typical fuel consumption**

|      |     |     |
|------|-----|-----|
| 25%  | 2.1 | 2.9 |
| 50%  | 2.9 | 4.2 |
| 75%  | 3.9 | 5.5 |
| 100% | 4.9 | 7.6 |

*Diesel Liters/h at % load***Engine Electrical**

|                       |                                  |
|-----------------------|----------------------------------|
| Electrical System (V) | 12                               |
| Starter Motor (kW)    | 2                                |
| Alternator (A)        | 50                               |
| Shutdown system       | Electrical                       |
| Stop Solenoid Type    | ETR (ETS earth isolated version) |



# 25GT/GTC 30GTA/GTAC

24,3 kVA (19,5 kW) 50 Hz 30 kVA (24 kW) 60 Hz



## control panel.

### SCO 10



Measures  
180x120x55 mm

Weight  
450g

## technical specifications.

Model

25GT 30GTA  
25GTC 30GTAC

### PHASE

#### Model and ratings

|            |         |         |
|------------|---------|---------|
| kW         | 19,5    | 24      |
| kVA        | 24,3    | 30      |
| Voltage    | 400/230 | 480/277 |
| Amps       | 35,2    | 28,9    |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

#### Sound level (dB) Canopy version

|       |    |
|-------|----|
| 50 Hz | 56 |
| 50 Hz | 58 |

### Size and Weight (Kg)

Canopy version

|                  |      |
|------------------|------|
| Lenght           | 1310 |
| Width            | 610  |
| Height           | 698  |
| Weight (Dry)     | 412  |
| standard version |      |
| Lenght           | 1139 |
| Width            | 610  |
| Height           | 662  |
| Weight (Dry)     | 351  |

### ALTERNATOR

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK 160LA AVR BL4                        |
| Regulator type              | electronic                              |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 0,8                                     |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

### ENGINE specification

|                       |                            |
|-----------------------|----------------------------|
| Base                  | MITSUBISHI                 |
| Sole Engine Model     | MINI-63                    |
| Type                  | 4 stroke                   |
| Cylinders             | 4                          |
| Displacement          | 2505 cc                    |
| Bore x Stroke         | 88x103 mm                  |
| Compression ratio     | 22:1                       |
| Injection             | Indirect                   |
| Aspiration type       | Naturally aspirated        |
| Lube Oil capacity (L) | 6,5                        |
| Oil Type              | ACEA E5/API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 9,5                        |
| Housing               | SAE 5                      |
| Flywheel              | SAE 8                      |

|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 11500     | 1800      |
| Power (HP/kW)                                     | 29,8/22,2 | 36,5/27,2 |
| Coolant flow rate (L/min)                         | 51        | 63        |
| Raw water rate (L/min)                            | 37,5      | 45        |
| Engine/generator intake air requirements (m3/min) | 4         | 5,6       |

### Typical fuel consumption

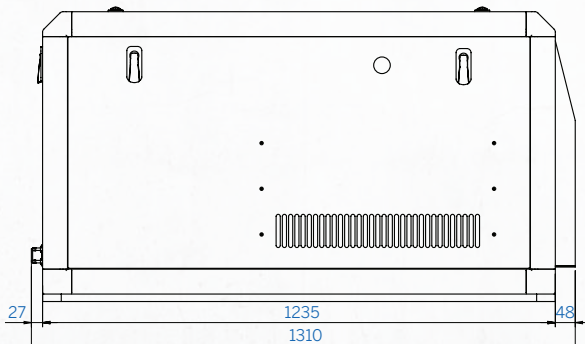
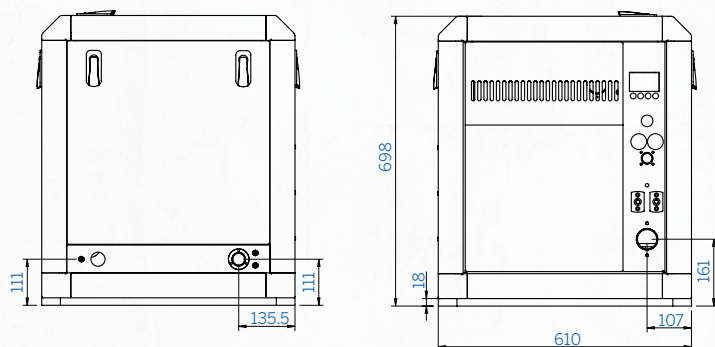
|      |      |      |
|------|------|------|
| 25%  | 2,4  | 2,9  |
| 50%  | 3,5  | 4,2  |
| 75%  | 4,75 | 5,55 |
| 100% | 6,4  | 7,6  |

Diesel Liters/h at % load

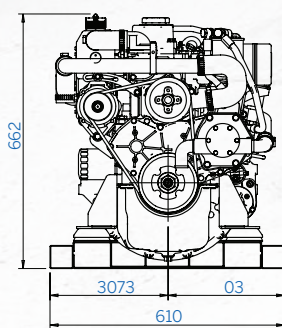
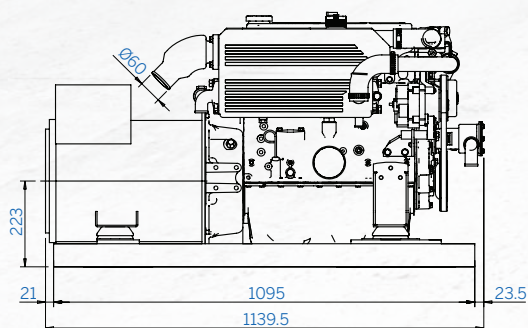
### Engine Electrical

|                       |                                  |
|-----------------------|----------------------------------|
| Electrical System (V) | 12                               |
| Starter Motor (kW)    | 2                                |
| Alternator (A)        | 50                               |
| Shutdown system       | Electrical                       |
| Stop Solenoid Type    | ETR (ETS earth isolated version) |

## canopy version.



## standard version.

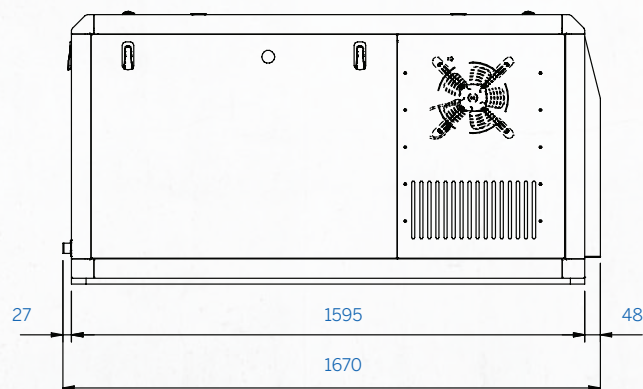
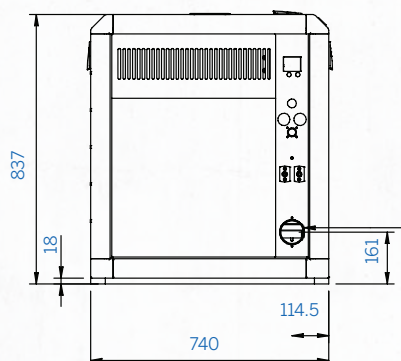
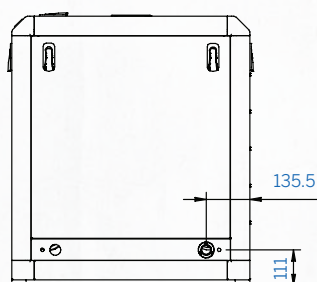
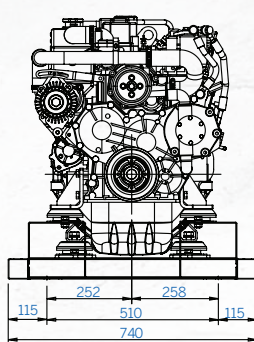
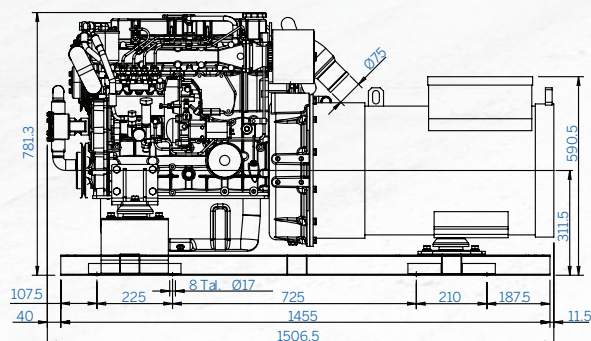


**29GS/GSC**

28,4 kVA (28,4 kW) 50 Hz

**32GSA/GSAC**

31,6 kVA (31,6 kW) 60 Hz

**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.****technical specifications.**

## Model

**29GS****29GSC****32GSA****32GSAC****PHASE****Model and ratings**

|            |       |       |
|------------|-------|-------|
| kW         | 28,4  | 31,6  |
| kVA        | 28,4  | 31,6  |
| Voltage    | 230   | 240   |
| Amps       | 124,0 | 132,0 |
| Phases     | 1     | 1     |
| Hz         | 50    | 60    |
| Engine RPM | 1500  | 1800  |

**Sound level (dB)** Canopy version

|       |    |
|-------|----|
| 50 Hz | 58 |
| 50 Hz | 58 |

**Size and Weight (Kg)**

## Canopy version

|                  |        |
|------------------|--------|
| Lenght           | 1670   |
| Width            | 740    |
| Height           | 837    |
| Weight (Dry)     | 714    |
| standard version |        |
| Lenght           | 1506.5 |
| Width            | 740    |
| Height           | 781    |
| Weight (Dry)     | 680    |

**ALTERNATOR**

|                             |                              |
|-----------------------------|------------------------------|
| Brand                       | MECC ALTE                    |
| Model                       | ECO32-1L/4                   |
| Regulator type              | AVR DSR electronic           |
| Nr. of poles                | 4                            |
| Insulation Type             | H                            |
| IP protection               | 21                           |
| Cos phi                     | 1                            |
| Tropicalization             | Standard                     |
| Excitation system           | Brushless                    |
| Voltage regulation Accuracy | ffl 1%                       |
| Frequency Regulation        | Synchronous                  |
| Standards                   | EN 61000-6-3<br>EN 61000-6-1 |

**ENGINE specification**

|                       |                            |
|-----------------------|----------------------------|
| Base                  | MITSUBISHI                 |
| Sole Engine Model     | MINI-74                    |
| Type                  | 4 stroke                   |
| Cylinders             | 4                          |
| Displacement          | 3331 cc                    |
| Bore x Stroke         | 94X120 mm                  |
| Compression ratio     | 22:1                       |
| Injection             | Indirect                   |
| Aspiration type       | Naturally aspirated        |
| Lube Oil capacity (L) | 10                         |
| Oil Type              | ACEA E5/API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 9                          |
| Housing               | SAE 3                      |
| Flywheel              | SAE 11 1/2                 |

|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 43,2/31,8 | 48,1/35,4 |
| Coolant flow rate (L/min)                         | 105       | 138       |
| Raw water rate (L/min)                            | 37,5      | 45        |
| Engine/generator intake air requirements (m3/min) | 14,1      | 17,2      |

**Typical fuel consumption**

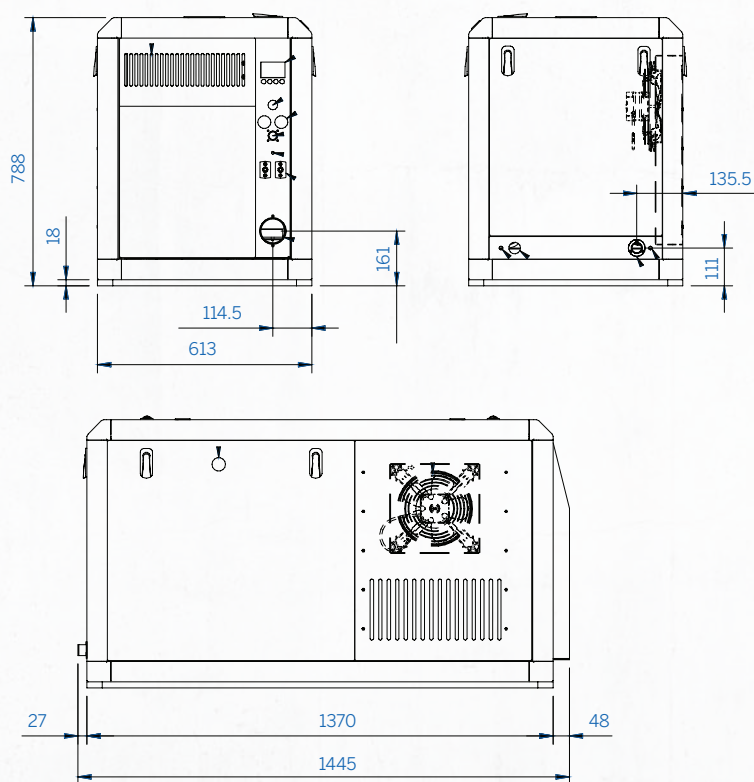
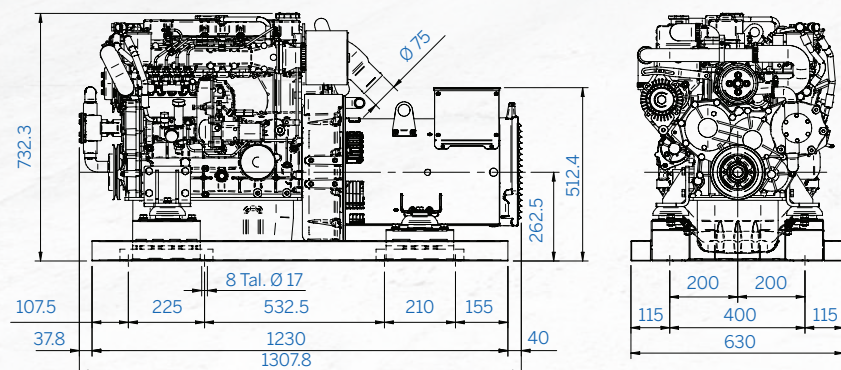
|      |      |     |
|------|------|-----|
| 25%  | 3,3  | 3,1 |
| 50%  | 5,4  | 4,8 |
| 75%  | 7,7  | 6,8 |
| 100% | 10,9 | 9,6 |

Diesel Liters/h at % load

**Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 2          |
| Alternator (A)        |            |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETR        |



**35GT/GTC**  
35 kVA (28 kW) 50 Hz**40GTA/GTAC**  
39 kVA (31,2 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)

**technical  
specifications.**

| Model | 35GT<br>35GTC | 40GTA<br>40GTAC |
|-------|---------------|-----------------|
|-------|---------------|-----------------|

**PHASE****Model and ratings**

|            |         |         |
|------------|---------|---------|
| kW         | 28      | 31,2    |
| kVA        | 35      | 39      |
| Voltage    | 400/230 | 480/277 |
| Amps       | 51,0    | 47,0    |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

**Sound level (dB)** *Canopy version*

|       |    |
|-------|----|
| 50 Hz | 58 |
| 50 Hz | 58 |

**Size and Weight (Kg)**

|                  |        |
|------------------|--------|
| Canopy version   |        |
| Length           | 1445   |
| Width            | 630    |
| Height           | 788    |
| Weight (Dry)     | 545    |
| standard version |        |
| Length           | 1307,8 |
| Width            | 630    |
| Height           | 732,3  |
| Weight (Dry)     | 494    |

**ALTERNATOR**

|                             |                                         |
|-----------------------------|-----------------------------------------|
| Brand                       | SINCRO                                  |
| Model                       | SK160WA                                 |
| Regulator type              | AVR BL4 electronic                      |
| Nr. of poles                | 4                                       |
| Insulation Type             | H                                       |
| IP protection               | 23                                      |
| Cos phi                     | 0,8                                     |
| Tropicalization             | Standard                                |
| Excitation system           | Brushless                               |
| Voltage regulation Accuracy | ffl 1%                                  |
| Frequency Regulation        | Synchronous                             |
| Standards                   | EN 60034-1<br>IEC 60034-1<br>ISO 8528-3 |

**ENGINE specification**

|                       |                            |
|-----------------------|----------------------------|
| Base                  | MITSUBISHI                 |
| Sole Engine Model     | MINI-74                    |
| Type                  | 4 stroke                   |
| Cylinders             | 4                          |
| Displacement          | 3331 cc                    |
| Bore x Stroke         | 94X120 mm                  |
| Compression ratio     | 22:1                       |
| Injection             | Indirect                   |
| Aspiration type       | Naturally aspirated        |
| Lube Oil capacity (L) | 10                         |
| Oil Type              | ACEA E5/API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 9                          |
| Housing               | SAE 3                      |
| Flywheel              | SAE 11 1/2                 |

|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 43,2/31,8 | 48,1/35,4 |
| Coolant flow rate (L/min)                         | 105       | 138       |
| Raw water rate (L/min)                            | 37,5      | 45        |
| Engine/generator intake air requirements (m3/min) | 5,7       | 6,8       |

**Typical fuel consumption**

|      |     |     |
|------|-----|-----|
| 25%  | 2,4 | 3,1 |
| 50%  | 3,8 | 4,8 |
| 75%  | 5,3 | 6,6 |
| 100% | 6,9 | 9,3 |

Diesel Liters/h at % load

**Engine Electrical**

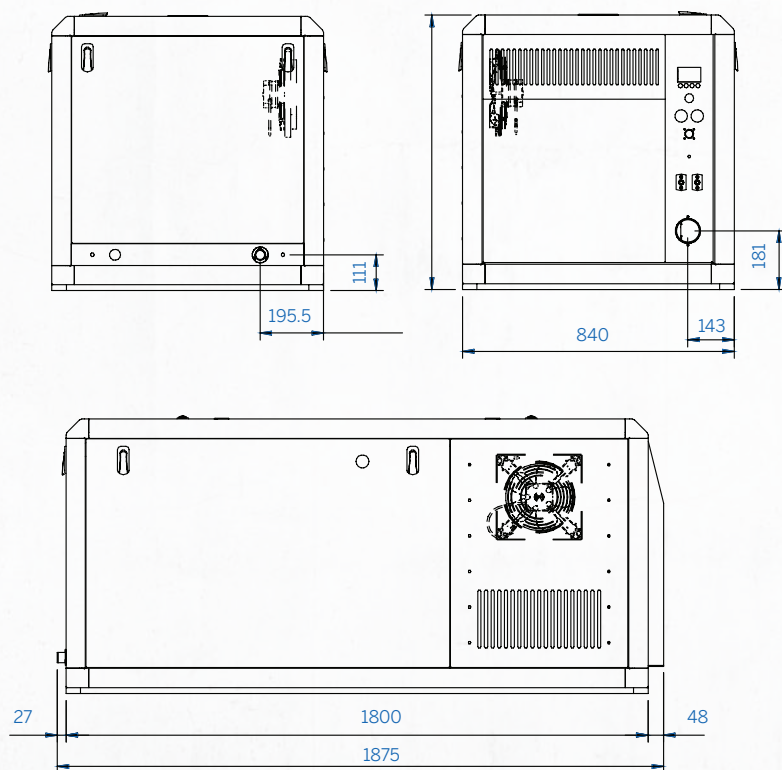
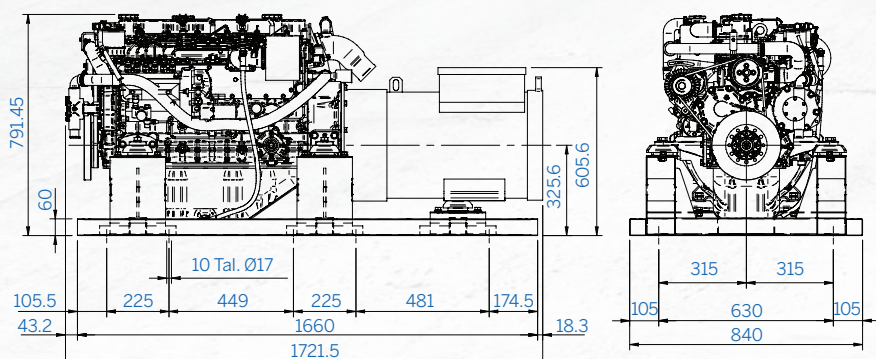
|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 2          |
| Alternator (A)        |            |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETR        |

**50GT/GTC**

48,9 kVA (39,2 kW) 50 Hz

**60GTA/GTAC**

58,3 kVA (46,7 kW) 60 Hz

**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)

**technical specifications.****PHASE****Model and ratings**

|            | 50GT<br>50GTC | 60GTA<br>60GTAC |
|------------|---------------|-----------------|
| kW         | 39            | 47,6            |
| kVA        | 48,9          | 58,3            |
| Voltage    | 400/230       | 480/277         |
| Amps       | 71,0          | 71,0            |
| Phases     | 3             | 3               |
| Hz         | 50            | 60              |
| Engine RPM | 1500          | 1800            |

**Sound level (dB)** Canopy version

|       |    |
|-------|----|
| 50 Hz | 58 |
| 50 Hz | 58 |

**Size and Weight (Kg)**

|                  |        |
|------------------|--------|
| Canopy version   |        |
| Length           | 1875   |
| Width            | 840    |
| Height           | 848    |
| Weight (Dry)     | 795    |
| standard version |        |
| Length           | 1721,5 |
| Width            | 840    |
| Height           | 798    |
| Weight (Dry)     | 690    |

**ALTERNATOR**

|                             |                              |
|-----------------------------|------------------------------|
| Brand                       | MECC ALTE                    |
| Model                       | ECO32-1L/4                   |
| Regulator type              | AVR DSR electronic           |
| Nr. of poles                | 4                            |
| Insulation Type             | H                            |
| IP protection               | 21                           |
| Cos phi                     | 0,8                          |
| Tropicalization             | Standard                     |
| Excitation system           | Brushless                    |
| Voltage regulation Accuracy | ffl 1%                       |
| Frequency Regulation        | Synchronous                  |
| Standards                   | EN 61000-6-3<br>EN 61000-6-1 |

**ENGINE specification**

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | MITSUBISHI                  |
| Sole Engine Model     | SM-105                      |
| Type                  | 4 stroke                    |
| Cylinders             | 6                           |
| Displacement          | 4996 cc                     |
| Bore x Stroke         | 94X120 mm                   |
| Compression ratio     | 22:1                        |
| Injection             | Indirect                    |
| Aspiration type       | Naturally aspirated         |
| Lube Oil capacity (L) | 12                          |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 11,5                        |
| Housing               | SAE 3                       |
| Flywheel              | SAE 11 1/2                  |

|                                                   | 50 Hz     | 60 Hz     |
|---------------------------------------------------|-----------|-----------|
| RPM                                               | 1500      | 1800      |
| Power (HP/kW)                                     | 59,6/43,9 | 71,1/52,3 |
| Coolant flow rate (L/min)                         | 100       | 110       |
| Raw water rate (L/min)                            | 37,5      | 45        |
| Engine/generator intake air requirements (m3/min) | 15,1      | 18,5      |

**Typical fuel consumption**

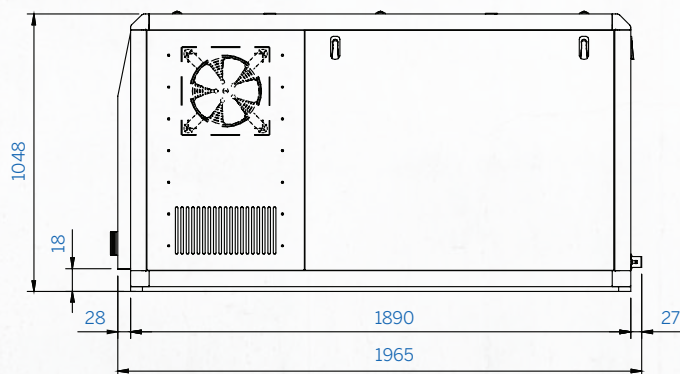
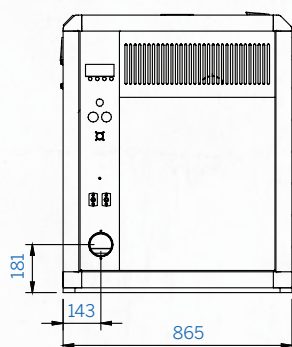
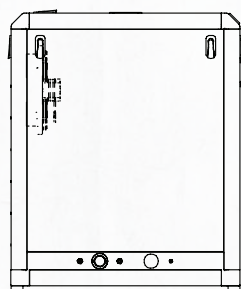
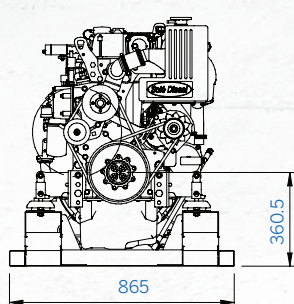
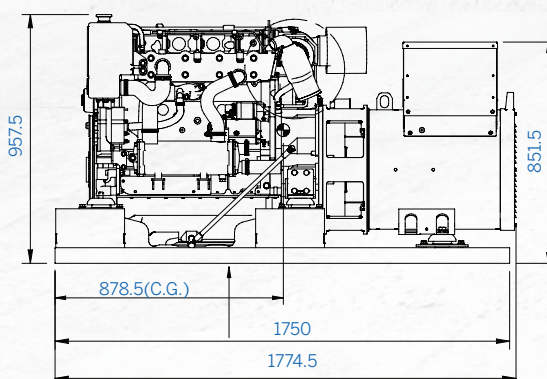
|      |      |      |
|------|------|------|
| 25%  | 3,4  | 5,0  |
| 50%  | 5,5  | 7,8  |
| 75%  | 7,8  | 11,2 |
| 100% | 10,3 | 15,9 |

Diesel Liters/h at % load

**Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 12         |
| Starter Motor (kW)    | 3          |
| Alternator (A)        | 50         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETR        |



**85GT/GTC**  
85 kVA (68 kW) 50 Hz**100GTA/GTAC**  
97,3 kVA (77,9kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)

**technical  
specifications.**

Model

| 85GT<br>85GTC | 100GTA<br>100GTC |
|---------------|------------------|
|---------------|------------------|

**PHASE****Model and ratings**

|            |         |         |
|------------|---------|---------|
| kW         | 68      | 77      |
| kVA        | 85      | 97,3    |
| Voltage    | 400/230 | 480/277 |
| Amps       | 123,0   | 118,0   |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

**Sound level (dB)** *Canopy version*

|       |     |
|-------|-----|
| 50 Hz | n/a |
| 50 Hz | n/a |

**Size and Weight (Kg)**

Canopy version

|                  |        |
|------------------|--------|
| Lenght           | 1965   |
| Width            | 865    |
| Height           | 1048   |
| Weight (Dry)     | 1100   |
| standard version |        |
| Lenght           | 1774,5 |
| Width            | 865    |
| Height           | 957,5  |
| Weight (Dry)     | 988    |

**ALTERNATOR**

|                             |                              |
|-----------------------------|------------------------------|
| Brand                       | MECC ALTE                    |
| Model                       | ECP34-1S/4                   |
| Regulator type              | AVR DSR electronic           |
| Nr. of poles                | 4                            |
| Insulation Type             | H                            |
| IP protection               | 21                           |
| Cos phi                     | 0,8                          |
| Tropicalization             | Standard                     |
| Excitation system           | Brushless                    |
| Voltage regulation Accuracy | ffl 1%                       |
| Frequency Regulation        | Synchronous                  |
| Standards                   | EN 61000-6-3<br>EN 61000-6-1 |

**ENGINE specification**

|                       |                             |
|-----------------------|-----------------------------|
| Base                  | DEUTZ                       |
| Sole Engine Model     | SDZ-109                     |
| Type                  | 4 stroke                    |
| Cylinders             | 4                           |
| Displacement          | 4796 cc                     |
| Bore x Stroke         | 108x130 mm                  |
| Compression ratio     | 19:1                        |
| Injection             | Direct                      |
| Aspiration type       | Turbocharger                |
| Lube Oil capacity (L) | 11                          |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40 |
| Coolant capacity (L)  | 17,5                        |
| Housing               | SAE 2                       |
| Flywheel              | SAE 11 1/2                  |

|                                                   | 50 Hz      | 60 Hz      |
|---------------------------------------------------|------------|------------|
| RPM                                               | 1500       | 1800       |
| Power (HP/kW)                                     | 110,1/81,0 | 115,5/85,0 |
| Coolant flow rate (L/min)                         | 110        | 132        |
| Raw water rate (L/min)                            | 97,28      | 116,73     |
| Engine/generator intake air requirements (m3/min) | 24,        | 29,6       |

**Typical fuel consumption**

|      |      |      |
|------|------|------|
| 25%  | 5,5  | 5,8  |
| 50%  | 10   | 11,2 |
| 75%  | 15,0 | 16   |
| 100% | 19   | 20,9 |

Diesel Liters/h at % load

**Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 124        |
| Starter Motor (kW)    | 4          |
| Alternator (A)        | 55         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |

**115GT/GTC**  
112,4 kVA (90 kW) 50 Hz**120GTA/GTAC**  
120 kVA (96 kW) 60 Hz**control panel.****SCO 10**Measures  
180x120x55 mmWeight  
450g**technical  
specifications.**

Model

| 115GT<br>115GTC | 120GTA<br>120GTAC |
|-----------------|-------------------|
|-----------------|-------------------|

**PHASE****Model and ratings**

|            |         |         |
|------------|---------|---------|
| kW         | 90      | 96      |
| kVA        | 112     | 120     |
| Voltage    | 400/230 | 480/277 |
| Amps       | 163,0   | 145,0   |
| Phases     | 3       | 3       |
| Hz         | 50      | 60      |
| Engine RPM | 1500    | 1800    |

**Sound level (dB)** *Canopy version*

|       |     |
|-------|-----|
| 50 Hz | n/a |
| 50 Hz | n/a |

**Size and Weight (Kg)**

Canopy version

|                  |        |
|------------------|--------|
| Lenght           | 1965   |
| Width            | 865    |
| Height           | 1048   |
| Weight (Dry)     | 1117   |
| standard version |        |
| Lenght           | 1769,1 |
| Width            | 865    |
| Height           | 995,5  |
| Weight (Dry)     |        |

**ALTERNATOR**

|                             |                              |
|-----------------------------|------------------------------|
| Brand                       | MECC ALTE                    |
| Model                       | ECP34-1L/4                   |
| Regulator type              | AVR DSR electronic           |
| Nr. of poles                | 4                            |
| Insulation Type             | H                            |
| IP protection               | 21                           |
| Cos phi                     | 0,8                          |
| Tropicalization             | Standard                     |
| Excitation system           | Brushless                    |
| Voltage regulation Accuracy | ffl 1%                       |
| Frequency Regulation        | Synchronous                  |
| Standards                   | EN 61000-6-3<br>EN 61000-6-1 |

**ENGINE specification**

|                       |                              |
|-----------------------|------------------------------|
| Base                  | DEUTZ                        |
| Sole Engine Model     | SDZ-165                      |
| Type                  | 4 stroke                     |
| Cylinders             | 4                            |
| Displacement          | 4764                         |
| Bore x Stroke         | 108x130 mm                   |
| Compression ratio     | 19:1                         |
| Injection             | Direct                       |
| Aspiration type       | Turbocharger and Intercooler |
| Lube Oil capacity (L) | 11                           |
| Oil Type              | ACEA E5, API CH-4/SJ, 15W40  |
| Coolant capacity (L)  | 17,5                         |
| Housing               | SAE 2                        |
| Flywheel              | SAE 11 1/2                   |

|                                                   | 50 Hz      | 60 Hz       |
|---------------------------------------------------|------------|-------------|
| RPM                                               | 1500       | 1800        |
| Power (HP/kW)                                     | 131,8/97,0 | 142,7/105,0 |
| Coolant flow rate (L/min)                         | 110        | 132         |
| Raw water rate (L/min)                            | 97,28      | 116,73      |
| Engine/generator intake air requirements (m3/min) | 25,4       | 30,3        |

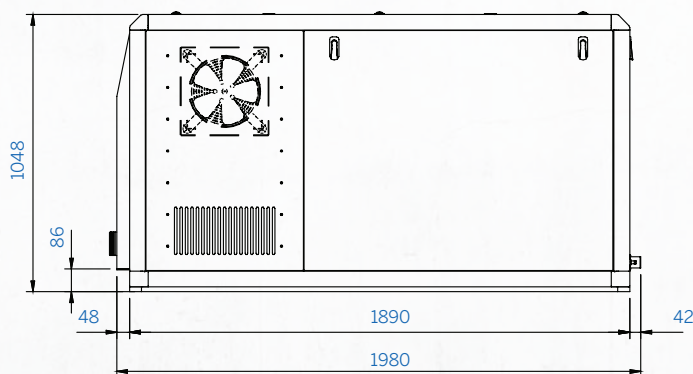
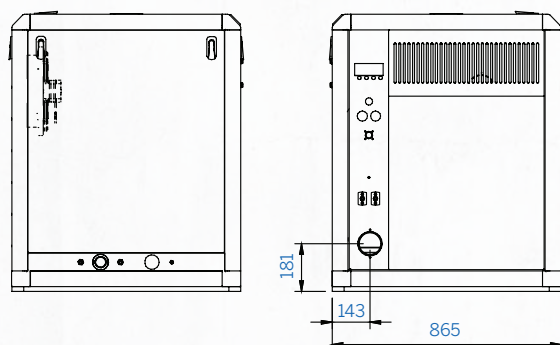
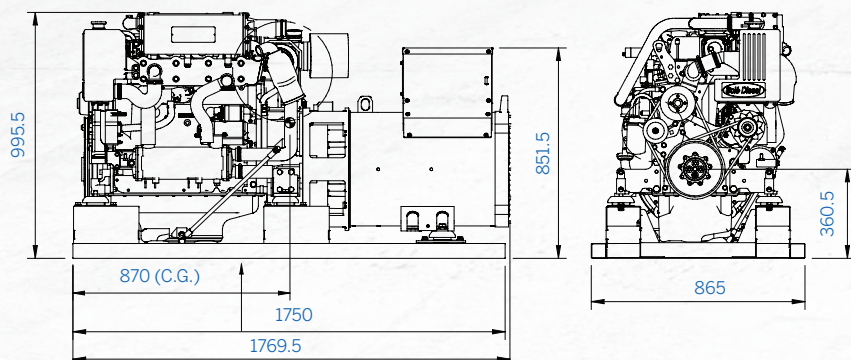
**Typical fuel consumption**

|      |      |      |
|------|------|------|
| 25%  | 6,8  | 7,3  |
| 50%  | 12,2 | 13,2 |
| 75%  | 18   | 19,2 |
| 100% | 24,2 | 25,6 |

Diesel Liters/h at % load

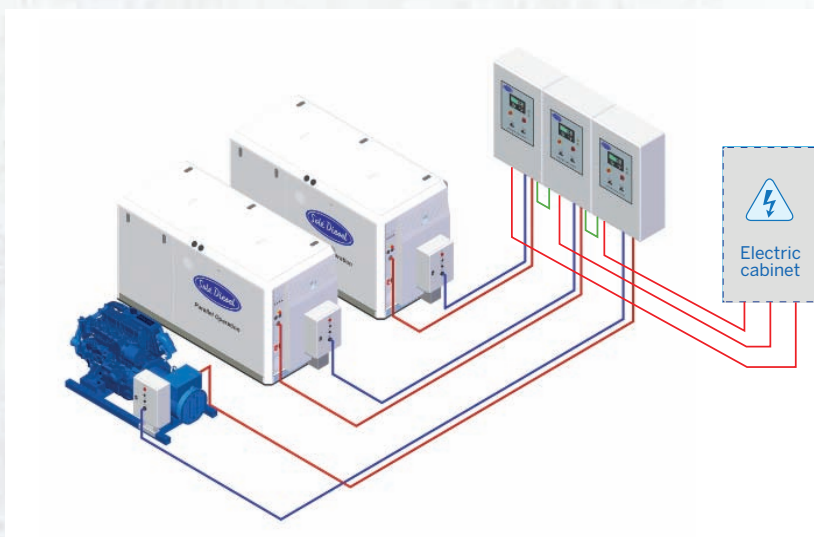
**Engine Electrical**

|                       |            |
|-----------------------|------------|
| Electrical System (V) | 24         |
| Starter Motor (kW)    | 4          |
| Alternator (A)        | 55         |
| Shutdown system       | Electrical |
| Stop Solenoid Type    | ETS        |

**canopy version.****standard version.**

Dimensions in millimetres. This drawing is provided for reference only.  
For further information, please visit our website [www.solediesel.com](http://www.solediesel.com)





Genset prepared for Parallel operation & Power and Control kit (only for reference).

For more information (Technical specifications) or shore supply version contact to Sales Department.

Onboard power distribution (not supplied)

— Control wiring  
— Power wiring (not supplied)  
— Communication wiring

## parallel operation. choose your best option.



### 1. GENSET PREPARED FOR PARALLEL OPERATION

Also available on standard version.

Scope of supply of Genset prepared for Parallel Operation

- Generator set
- Emergency stop button
- Diagnostic button and Fault indicator lamp
- Control wiring (6-meter length)\*

#### Not included:

- Control panel · Generator circuit breaker
- Circuit transformers · Communication wiring · Power wiring



### 2. GENSET PREPARED FOR PARALLEL OPERATION & CONTROL KIT

Also available on standard version.

Scope of supply of Genset prepared for Parallel Operation

- Generator set
- Emergency stop button
- Diagnostic button and Fault indicator lamp

#### Scope of supply of Control Kit

- Control wiring (6-meter length)\*
- Control cabinet: Panel: IntelliCompact
- Emergency stop button

#### Not included:

- Generator circuit breaker · Circuit transformers
- Communication wiring · Power wiring



### 3. GENSET PREPARED FOR PARALLEL OPERATION & POWER AND CONTROL KIT

Also available on standard version.

Scope of supply of Genset prepared for Parallel Operation

- Generator set
- Emergency stop button
- Diagnostic button and Fault indicator lamp

#### Scope of supply of Power and Control Kit

- Control wiring (6-meter length)\*
- Power and Control cabinet - Panel: IntelliCompact
- Emergency stop button
- Generator circuit breaker
- Current transformers
- Communication wiring (6-meter length)\*

#### Not included:

- Power wiring

\* Other available lengths: 12 and 24m.

STANDARD PANEL FOR  
CANOPY VERSION

SCO 10 DOUBLE PANEL

## Technical Specifications.

## GENERAL DESCRIPTION

- Graphic LCD with light, 128 x 64 pixels display
- 2 LED indicators
- Genset Measures (see Display Information)
- Configuration protected by password
- Running hour indication
- Multilanguage
- Genset protections (see Alarm Management)
- Preheating function
- D+ pre-excitation Terminal
- CAN bus information output with SAE J1939 protocol
- Two multipurpose timers

## POWER SUPPLY

Voltage supply: 12/24V DC with fuse  
protection  
Consumption: 80/51mA

## DIMENSIONS AND WEIGHT

Dimensions: 180 x 120 x 55 mm  
Weight: 450g

## OPERATING CONDITIONS

Operating temperature: -20 +70°C  
Humidity: 95% Without condensation  
Protection front panel: IP65

## STANDARD CONFORMITY

- Low Voltage Directive  
EN 61010-1:95 +A1:97
- Electromagnetic Compatibility  
EN 50081-1:94, EN 50081-2:96  
EN 50082-1:99, EN 50082-2:97

## FUNCTION DESCRIPTION

OFF Mode  
MAN Mode (manual start/stop engine)  
AUT Mode (auto start/stop engine)

## DISPLAY INFORMATION

- Measurement
  - L1-L3 Voltage (V)
  - Frequency (Hz)
  - Oil Pressure (bar)
  - Coolant Temperature (°C)
  - Battery Voltage (V DC)
  - rpm
  - Active Power\* (kW)
  - Apparent Power\* (kVA)
  - Current\* (A)
  - PF\*
- History log

## ALARM MANAGEMENT

- Shut Downs (SD)
  - High coolant temperature
  - Low oil pressure
  - Overspeed
  - Overload\*
  - Short circuit\*
  - Overcurrent\*
  - Over/Under voltage
  - Over/Under frequency
  - Emergency stop
- Warnings (WRN)
  - High coolant temperature
  - Low oil pressure
  - High/Low battery voltage
  - Maintenance request
- Sensor Fails (FLS)

## OPTIONAL EQUIPMENT

- SCO 10 Double panel:  
SCO 10 Double panel allows the same operation and functionality as Main SCO 10. They are connected by RS485 port with a communication wire, available in 12/24/36 m.
- Current transformers:  
Current (A), Active Power (kW), Apparent Power (kVA) and PF genset measures.
- Isolated transformers:  
Voltage transformer unit to separate mains voltage and controller with voltage ratio 1:1.
- Binary Input/Output extension module
- IG-IB Internet communication bridge:  
For Ethernet/Internet communications





Panel developed by Solé Diesel. Controlled from an electronic control unit, this unit is designed to start and stop a generator set manually. Once the engine is running, the unit monitors failure conditions and stops the engine automatically in the event of an alarm. When the engine stops the corresponding alarm icon lights up on the front panel, as well as activating an audible alarm.

## Technical Specifications.

### COMPLIES WITH EU DIRECTIVES

73/23/EEC and 93/68/EEC (low voltage).

89/336/EEC, 92/31/EEC and 93/68/EEC (EMC).

### TECHNICAL SPECIFICATIONS

Power: 12 to 24 VDC.

Energy consumption: 80 mA maximum  
(Relays disabled)

Load fault trip voltage: 8 VDC

50 / 60 Hz compatible

Operating temperature: -15 to 70 °C

Storage temperature: -20 to 80 °C

Maximum humidity: 95% non-condensing

Dimensions: A x B x C mm.

Weight: approximately 550 g

Installation: Front panel mounting

### Only for the following models:

G-8T-3, G-15T-3, G-6T-15, G-8M-3, G-15M-3, G-6M-15









instalation  
kits.

3

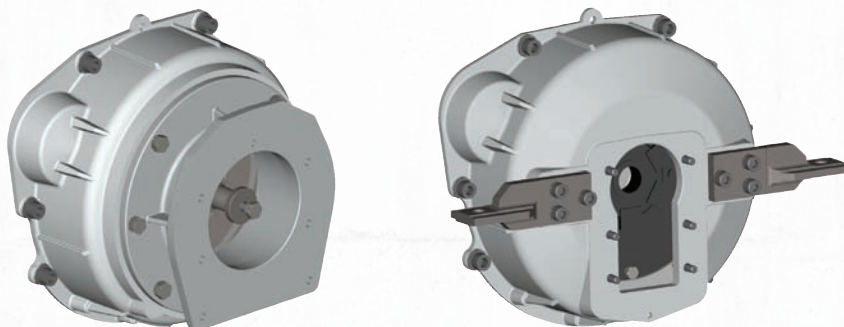




# installation kits.

## CUSTOMIZATIONS TO ADAPT OTHER TRANSMISSIONS

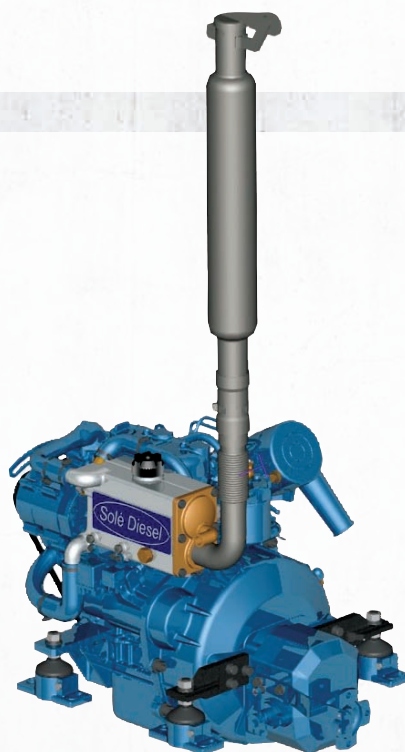
- VOLVO SAILDRIVE 100S / 110S / 120SB / 120S / 130S
- VOLVO SAILDRIVE 270 / 280 / 290
- YANMAR SAILDRIVE SD 20
- BUCK SAILDRIVE DV10 / DV20
- BW GEARBOXES
- HURTH 150A
- TECHNODRIVE GEARBOXES



## EXHAUST SYSTEM

### DRY EXHAUST

- Dry exhaust flange
- Dry exhaust flange + flexible pipe
- flange + flexible pipe + silencer

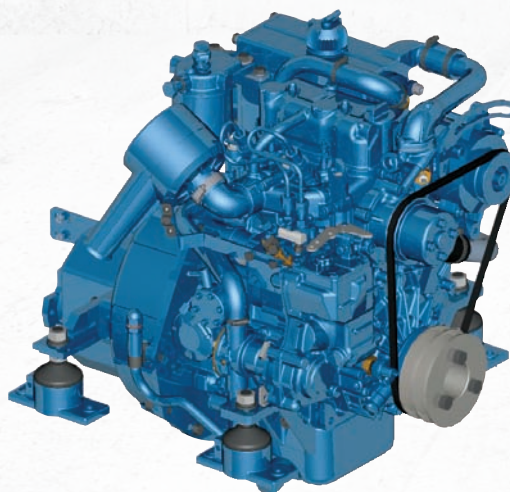


Mini-17 with complete dry exhaust.

## POWER TAKE OFF

### POWER TAKE OFF BY PULLEY / IN LINE

- 2 grooves type A
- 2 grooves type B
- 4 grooves type A
- 4 grooves type B
- Power take off shaft



Mini-17 with pulley 2B.

We can offer you these options for the full range of propulsion engines, according to your needs.



## INSTRUMENT PANEL

- Panel T3
- Double panel T2 + T4
- Double panel T3 + T3

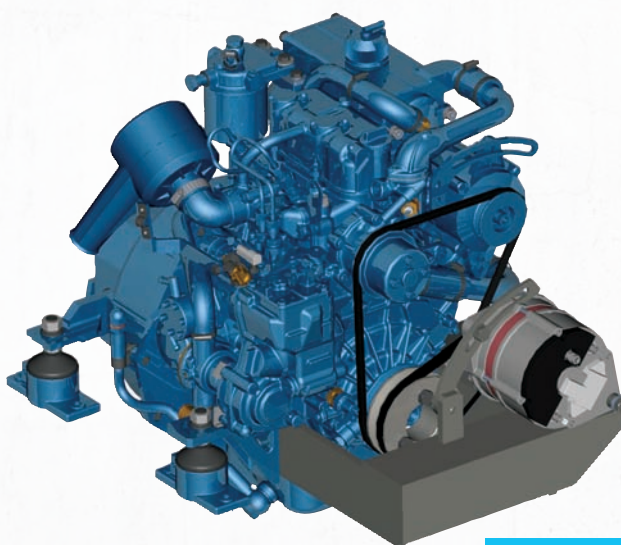


## ELECTRICAL SYSTEM

- 24V installations
- 12 or 24V two-pole installations

## 2ND ALTERNATOR (12 OR 24V)

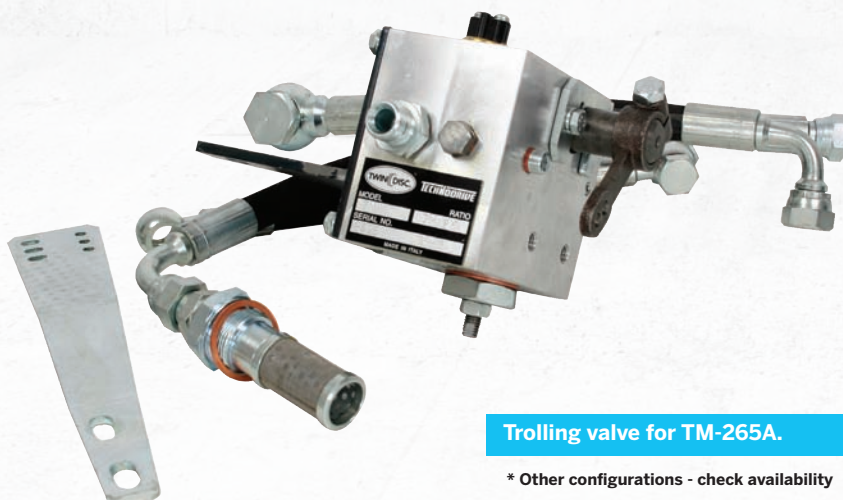
- 12v/70A alternator
- 14V/90A alternator
- 14V/110A alternator
- 24V/55A alternator
- 24V/140A alternator



Mini-17 with 2nd alternator 24V/55A.

## OTHERS

- Heater inlet
- Trolling valve
- Keel cooling
- Double-walled injection pipes



Trolling valve for TM-265A.

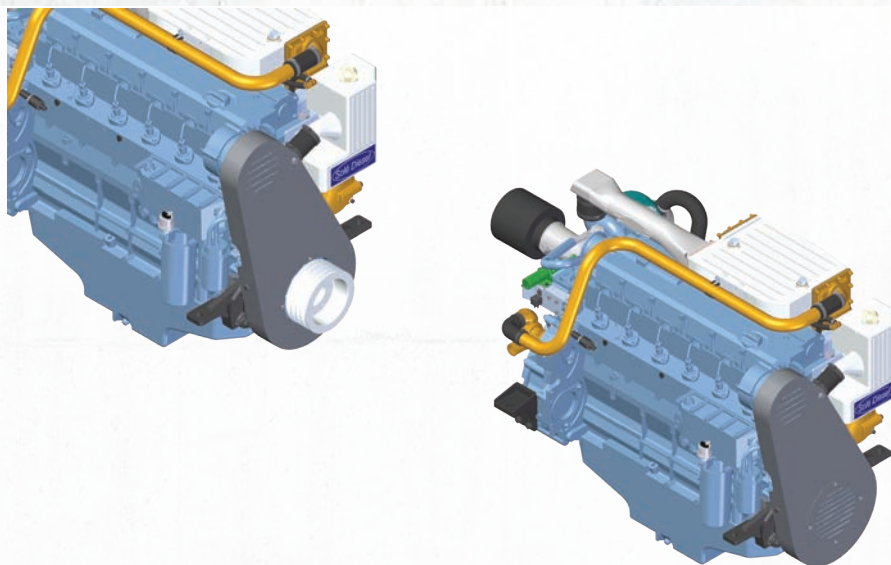
\* Other configurations - check availability



# installation kits.

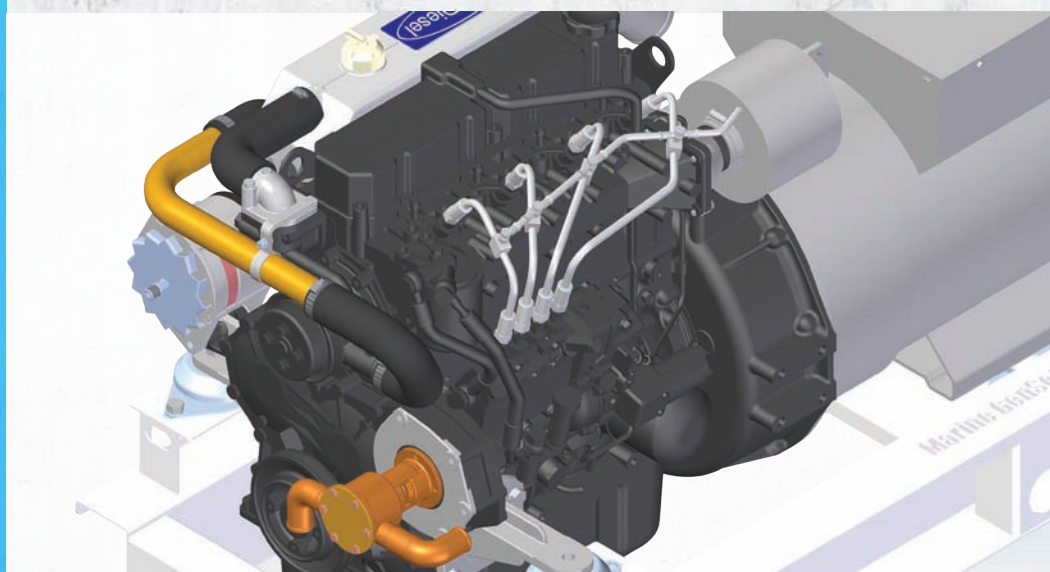
## V-BELT PROTECTION

- V-Belt protection build on metal sheet.
- Allows the installation of power take off by pulley or in line
- Available for propulsion engines and gen sets
- Mets the highest standards from Type Approval (RRR, RMRS, DNV, B&V)



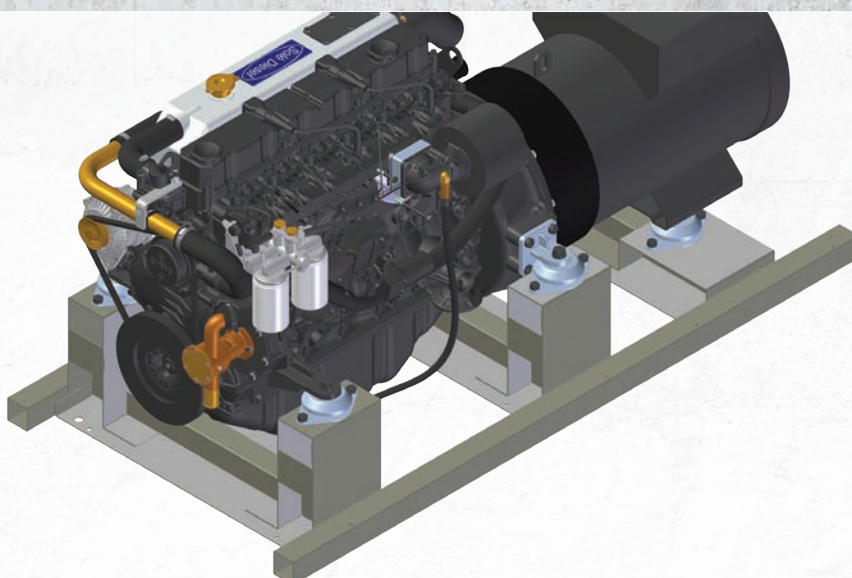
## KIT JACKETED FUEL INJECTION PIPES AND LEAKING ALARM

- Available for propulsion engines and gen sets
- Mets the highest standards from Type Approval (RMRS, DNV, B&V)



## EXCHANGEABLE DOUBLE FUEL FILTER KIT

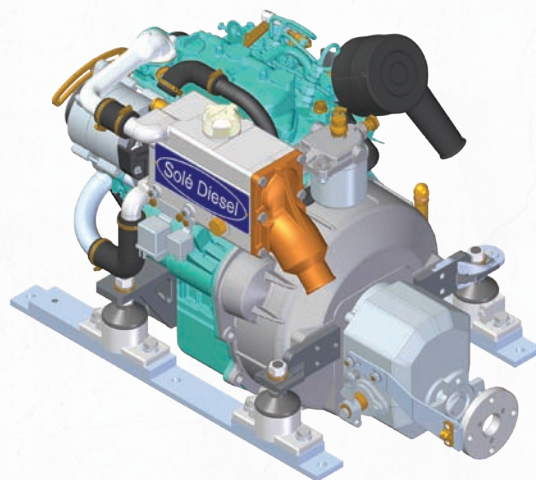
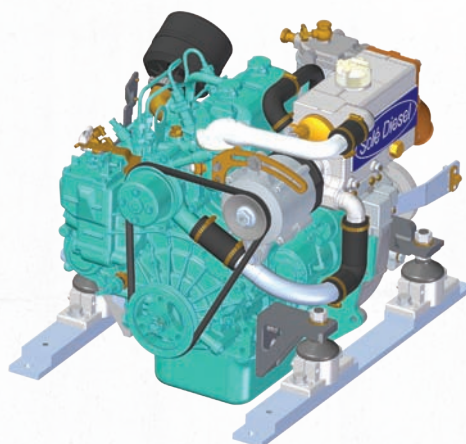
- Available for propulsion engines and gen sets
- Met the highest standards from Type Approval (RRR, RMRS, DNV, B&V)



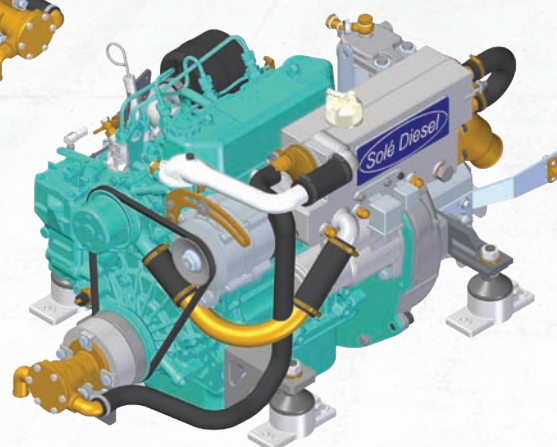
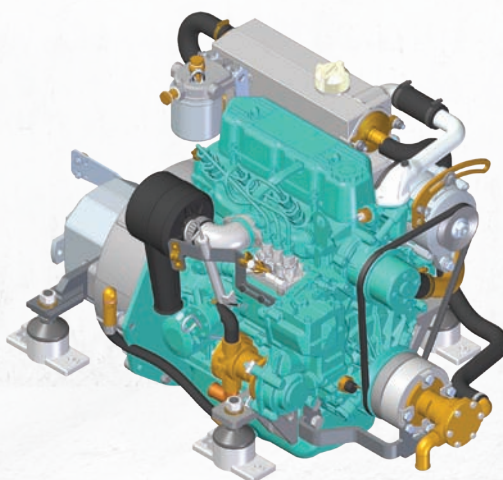


KIT ADAPTION FITTING FROM  
MINI-1/2/3 TO MINI-17/29

- Special fitting from MINI-1/2/3 to MINI-17/29
- Allows to reduce the frame job by making the same measures on wide and height

FRONTAL RAW WATER  
PUMP KIT MINI-17/29

- Makes easier the maintenance job, specially on sailing boats
- Available for MINI-17 and MINI-29







This kit is supplied with three different items; sea water filter, sea water cock and the hose clamps. The sea water cock consist of water intake with filter screen and hull transom. The sea water filter, prevents from raw water pump and the heat exchanger to get block from external elements. The transparent plastic cover makes easier the service and element washing. The hose clamps are used for connection of the parts. Hose not included.



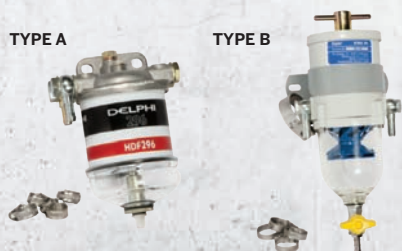
The metallic water filter fit includes; the metallic water filter strainer built on brass, the sea water cock, and the hose clamps for connection of the parts. The kit is highly recommended for all kind of installations, but specially for commercial applications, as the metallic water filter is homologated by RINA. Hose not included.



This kit must be installed in order to prevent the syphoning effect from damaging the engine. This means that if the engine is under the waterline, it is exposed to water entering into the exhaust system and subsequently into the engine itself. To prevent this from happening, the syphon breaker kit will have to be installed above the waterline, letting air enter the hose and liberating the engine from the syphon effect. 1 meter hose included.

TYPE A

TYPE B



Diesel fuel filter with water separator, equipped with connectors. Hose not included.



These exhaust kits are composed of a waterlock, connection clamps, and transom exhaust connection. Hose not included.



The water/gas separator kit offers an ultimate solution to the exhaust noises produced. It separates the injected raw cooling water from the exhaust gases. Hose not included.

### WATER INLET KIT

| PART NUMBERS | DESCRIPTION          |
|--------------|----------------------|
| 601.39.100   | Water inlet Kit D.20 |
| 601.71.100   | Water inlet kit D.32 |
| 601.94.100   | Water inlet kit D.42 |

### METALLIC WATER FILTER KIT

| PART NUMBERS | DESCRIPTION          |
|--------------|----------------------|
| 601.39.101   | Water inlet Kit D.20 |
| 601.77.101   | Water inlet Kit D.27 |
| 601.71.101   | Water inlet kit D.32 |
| 601.94.101   | Water inlet kit D.42 |
| 601.01.101   | Water inlet kit D.45 |

### SYPHON BREAKET KITS

| PART NUMBERS | DESCRIPTION                 |
|--------------|-----------------------------|
| 607.30.015   | Syphon Breaker Kit D.19 (C) |
| 607.30.018   | Syphon Breaker Kit D.19 (S) |
| 607.30.019   | Syphon Breaker Kit D.27 (S) |
| 607.30.016   | Syphon Breaker Kit D.32 (C) |
| 607.30.017   | Syphon Breaker Kit D.42 (C) |
| 607.30.020   | Syphon Breaker Kit D.42 (S) |

### METALLIC WATER FILTER KIT

| PART NUMBERS | DESCRIPTION                          |
|--------------|--------------------------------------|
| 603.39.100   | Gas-Oil Filter Kit D.8 (C) (Type A)  |
| 603.94.100   | Gas-Oil Filter Kit D.12 (C) (Type B) |

### DELTA EXHAUST KITS

| PART NUMBERS | DESCRIPTION       |
|--------------|-------------------|
| 607.39.040   | Exhaust Kit D.40  |
| 607.72.040   | Exhaust Kit D.50  |
| 607.71.040   | Exhaust Kit D.60  |
| 607.74.040   | Exhaust Kit D.75  |
| 607.94.040   | Exhaust Kit D.90  |
| 607.95.040   | Exhaust Kit D.125 |

### DELTA WATER/GAS SEPARATOR KITS

| PART NUMBERS | DESCRIPTION                       |
|--------------|-----------------------------------|
| 607.39.025   | Water/Gas Seaparator Kit D.40 (C) |
| 607.72.025   | Water/Gas Seaparator Kit D.50 (C) |

Note. (S) Kits for standard canopy gen set version  
(C) Kits for canopy gen set version



## engine maintenance kit.



Basic maintenance kit with all the essential items for your engine annual check: oil filter, fuel filter, impeller and pump cover gasket.



## ENGINE MAINTENANCE KIT

|                  |                     |              | Engine maintenance kit |             |                 |
|------------------|---------------------|--------------|------------------------|-------------|-----------------|
| PART NR WITH BOX | PART NR WITHOUT BOX | MODEL ENGINE | OIL FILTER             | FILTER FUEL | IMPELLER KIT*** |
| 138.40.110       | 138.40.111          | MINI-17      | 13124051               | 13114022    | 31211003        |
| 138.40.110       | 138.40.111          | MINI-29      | 13124051               | 13114022    | 31211008        |
| 138.40.110       | 138.40.111          | MINI-33      | 13124051               | 13114022    | 31211008        |
| 138.40.110       | 138.40.111          | MINI-44      | 13124051               | 13114022    | 31211008        |
| 177.40.110       | 177.40.111          | MINI-55      | 13124051               | 13114022    | 35111008        |
| 171.40.110       | 171.40.111          | MINI-62      | 13924051               | 17114022    | 34711008        |
| 171.40.110G      | 171.40.111G         | MINI-63 *    | 13924051               | 17414022    | 34711008        |
| 174.40.110       | 174.40.111          | MINI-74      | 17424051               | 17414022    | 34711008        |
| 187.40.110       | 187.40.111          | SV-230       | 19024051               | 18524020    | 38611008        |
| 182.40.110       | 185.24.051          | SN-85        | 18524051               | 18224022    | 34711008        |
| 182.40.110       | 185.24.051          | SN-110       | 18524051               | 18224022    | 34711008        |
| 175.40.110       | 175.40.111          | SM-105       | 17524051               | 17414022    | 34711008        |
| 194.40.110       | 194.40.111          | SDZ-109 **   | 19424051               | 19424022    | 39411008        |
| 194.40.110       | 194.40.111          | SDZ-165      | 19424051               | 19424022    | 39411008        |
| 194.40.110       | 194.40.111          | SDZ-205      | 19424051               | 19424022    | 39411008        |
| 194.40.110       | 194.40.111          | SDZ-280      | 19424051               | 19424022    | 39411008        |

\* MINI-63 settled on following Generators sets:

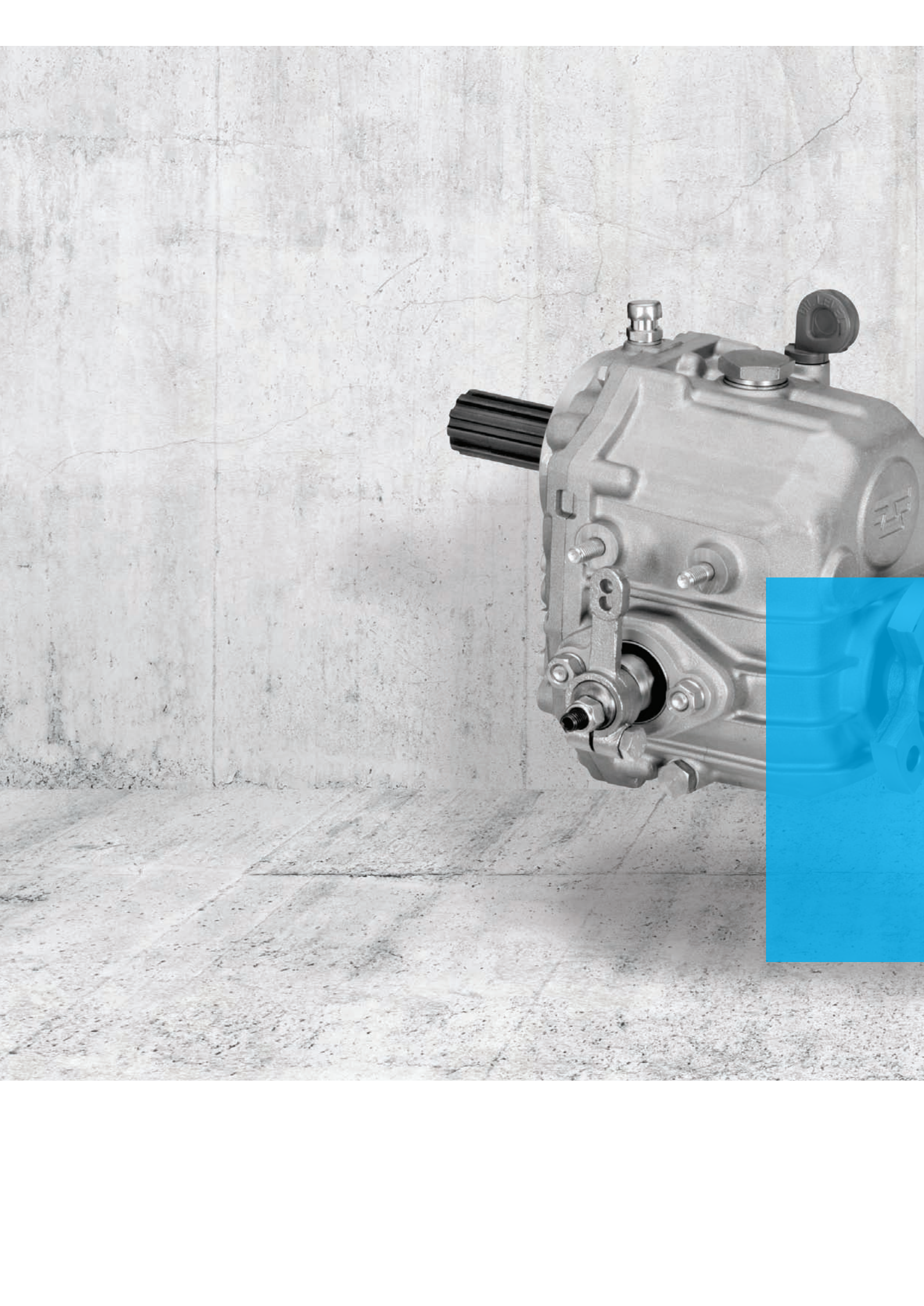
20 GS/GSC  
25 GT/GTC  
25 GSA/GSAC  
30 GTA/GTAC

\*\* SDZ-109 settled on following Generator set:

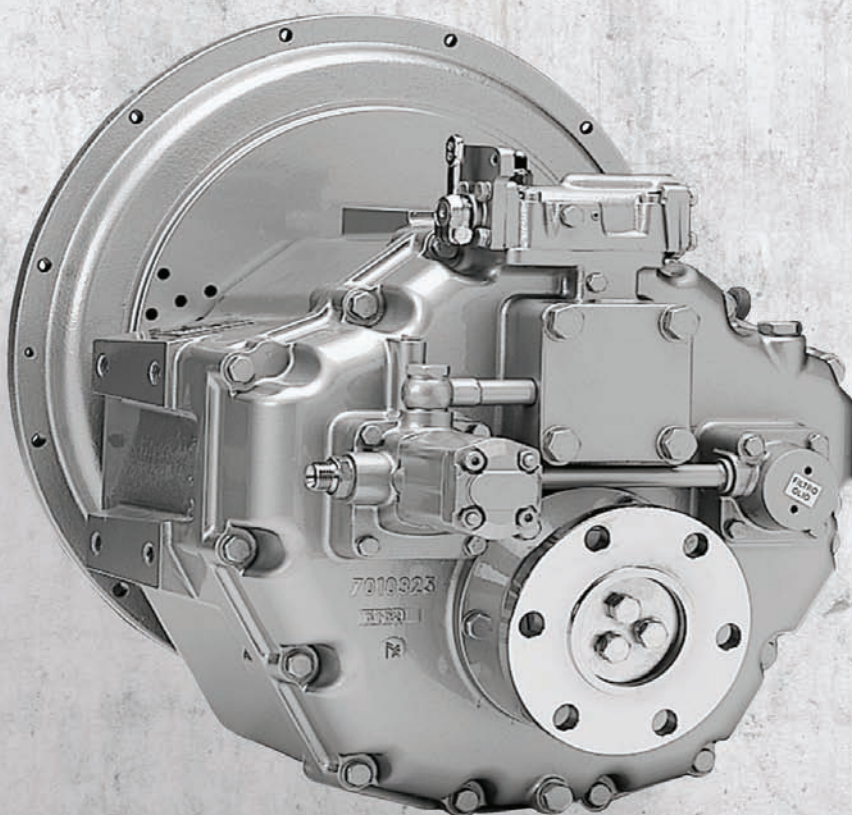
85 GT/GTC  
100 GTA/GTAC

\*\*\* Kit includes impeller and gasket









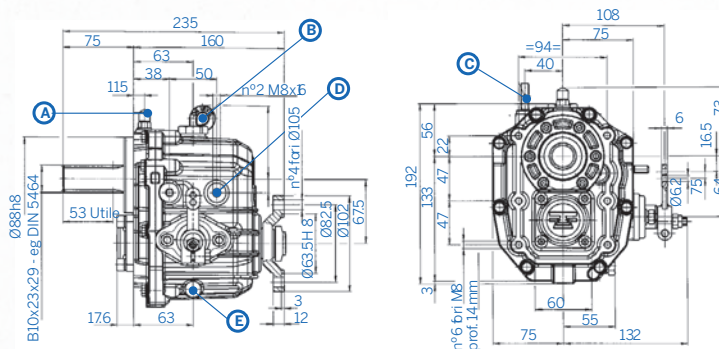
transmissions.

4





## TMC40P technodrive



- A Safety valve
- B Filler cap
- C Oil level dipstick
- D Threaded bores for Morse mounting
- E Drain plug

The **TECHNODRIVE TMC 40 P** marine transmission is equipped with mechanically activated, servo-controlled tapered clutches; the gears have been specially designed to provide quiet operation, and the bearings are oversized.

## TECHNICAL SPECIFICATION

|                                     |                              |
|-------------------------------------|------------------------------|
| <b>Forward ratio</b>                | <b>1.45/2.00/2.60:1</b>      |
| <b>Reverse ratio</b>                | <b>2.13:1</b>                |
| <b>Type</b>                         | <b>Mechanical</b>            |
| Max. input torque (Nm)              | See technical appendix       |
| Max. input speed                    | See technical appendix       |
| Direction of rotation, output shaft | Clockwise                    |
| Approximate weight (dry)            | 9kg (See technical appendix) |
| Oil capacity                        | 0.2 l                        |
| Oil type                            | ATF                          |
| Max oil temperature                 | 95°C                         |
| Max installation angle              | 15°                          |

## PARTS NUMBERS

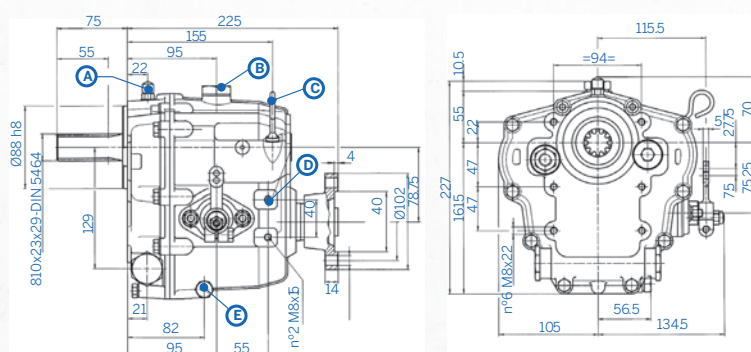
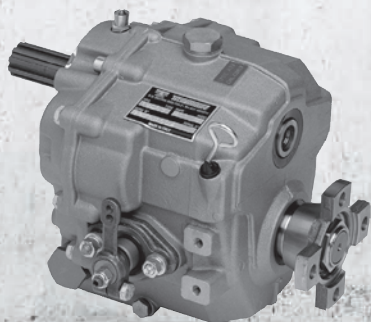
| Part number        | Reduction ratio |
|--------------------|-----------------|
| <b>248.62.000P</b> | 1.45:1          |
| <b>248.63.000P</b> | 2.00:1          |
| <b>248.64.000P</b> | 2.60:1          |

## NOTE

Housing Adaptor: SAE 7" BW.

**Part number 225.10.012**

## TMC60P technodrive



- A Safety valve
- B Filler cap
- C Oil level dipstick
- D Threaded bores for Morse mounting
- E Drain plug

The **TECHNODRIVE TMC 60 E** marine transmission is equipped with mechanically activated, servo-controlled tapered clutches; the gears have been specially designed to provide quiet operation, and the bearings are oversized. The transmission ratios of 2.00 and 2.45 are suitable for turning the propeller to the left or the right in forward gear, and so the TMC 60 P unit is especially appropriate for dual engine installations.

## TECHNICAL SPECIFICATION

|                                     |                                                      |
|-------------------------------------|------------------------------------------------------|
| <b>Forward ratio</b>                | <b>1.55/2.00/2.45:1</b>                              |
| <b>Reverse ratio</b>                | <b>2.00/2.00/2.45:1</b>                              |
| <b>Type</b>                         | <b>Mechanical</b>                                    |
| Max. input torque (Nm)              | See technical appendix                               |
| Max. input speed                    | See technical appendix                               |
| Direction of rotation, output shaft | Bidirectional (except 1.55 forward ratio, clockwise) |
| Approximate weight (dry)            | 14kg (See technical appendix)                        |
| Oil capacity                        | 0.65 l                                               |
| Oil type                            | ATF                                                  |
| Max. operating temperature          | 95°C                                                 |
| Max installation angle              | 15°                                                  |

## PARTS NUMBERS

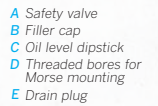
| Part number        | Reduction ratio |
|--------------------|-----------------|
| <b>248.82.000P</b> | 1.55:1          |
| <b>248.83.000P</b> | 2.00:1          |
| <b>248.84.000P</b> | 2.45:1          |
| <b>248.85.000P</b> | 2.83:1          |

## NOTE

Housing Adaptor: SAE 7" BW.

**Part number 225.10.012**

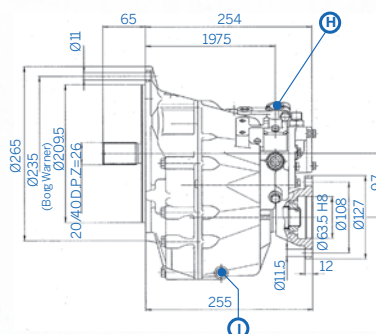
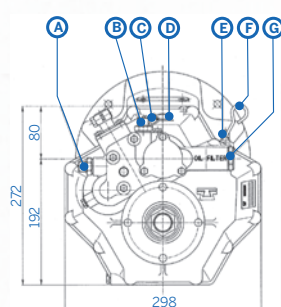
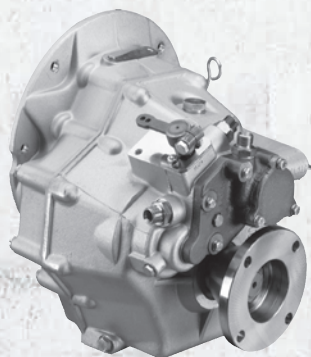




Part number 225. 10.012

- A Safety valve
- B Filler cap
- C Oil level dipstick
- D Threaded bores for Morse mounting
- E Drain plug

| Part number | Reduction ratio |
|-------------|-----------------|
| 248.92.000  | 1.54:1          |
| 248.93.000  | 2.00:1          |
| 248.94.000  | 2.47:1          |
| 248.95.000  | 2.88:1          |



- A Return oil line
- B connection from oil cooler
- C Oil line connection to oil cooler
- D Dead centre sensor Filler cap
- E safety valve
- F Oil level dipstick
- G Oil filter
- H Control lever
- I Drain plug

The **TM 345** marine transmission is built in alloy housing and is equipped with hydraulically activated multiple disk clutches. The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse.

#### TECHNICAL SPECIFICATION

|                                     |                                |               |
|-------------------------------------|--------------------------------|---------------|
| <b>Forward ratio</b>                | <b>2.00</b>                    | <b>2.47:1</b> |
| <b>Reverse ratio</b>                | <b>2.00</b>                    | <b>2.47:1</b> |
| <b>Type</b>                         | <b>Hydraulic</b>               |               |
| Max. input torque (Nm)              | See technical appendix         |               |
| Max. input speed                    | See technical appendix         |               |
| Direction of rotation, output shaft | Bidirectional                  |               |
| Approximate weight (dry)            | 25 kg (See technical appendix) |               |
| Oil capacity                        | 1.6 l                          |               |
| Oil type                            | SAE 15W40                      |               |
| Max. operating temperature          | 95°C                           |               |
| Max installation angle              | 15°                            |               |

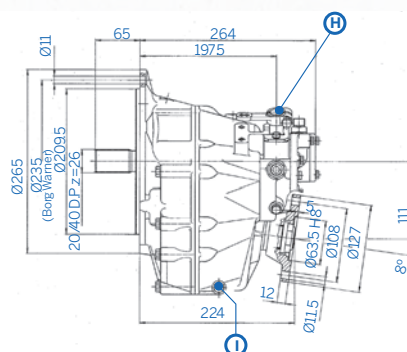
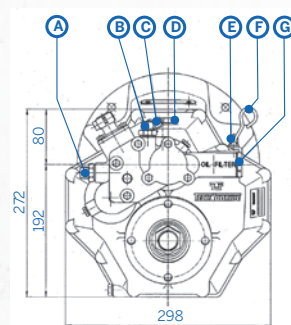
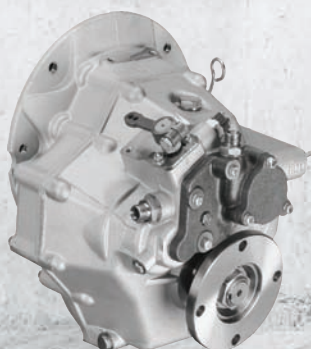
#### PARTS NUMBERS

| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.53.000</b> | 2.00:1          |
| <b>248.54.000</b> | 2.47:1          |
| <b>248.52.000</b> | 1.54:1          |

#### NOTE

Housing: SAE 7" (type BW)

**Idle valve kit (Part number 170.12.345)**



- A Return oil line connection from oil cooler
- B Oil line connection to oil cooler
- C Dead centre sensor
- D Filler cap
- E safety valve
- F Oil level dipstick
- G Oil filter
- H Control lever
- I Drain plug

The **TM 345A** marine transmission is built in alloy housing and is equipped with hydraulically activated multiple disk clutches. The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse.

The 8° angle of depression of the output shaft makes it possible to correctly install the marine engine-transmission set on planning or semidisplacement hulls.

#### TECHNICAL SPECIFICATION

|                                     |                                |             |               |
|-------------------------------------|--------------------------------|-------------|---------------|
| <b>Forward ratio</b>                | <b>1.54</b>                    | <b>2.00</b> | <b>2.47:1</b> |
| <b>Reverse ratio</b>                | <b>1.54</b>                    | <b>2.00</b> | <b>2.47:1</b> |
| <b>Type</b>                         | <b>Hydraulic</b>               |             |               |
| Max. input torque (Nm)              | See technical appendix         |             |               |
| Max. input speed                    | See technical appendix         |             |               |
| Direction of rotation, output shaft | Bidirectional                  |             |               |
| Approximate weight (dry)            | 25 kg (See technical appendix) |             |               |
| Oil capacity                        | 1.6 l                          |             |               |
| Oil type                            | SAE 15W40                      |             |               |
| Max. operating temperature          | 95°C                           |             |               |
| Angle                               | 8°                             |             |               |
| Max installation angle              | 15°                            |             |               |

#### PARTS NUMBERS

| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.52.100</b> | 1.54:1          |
| <b>248.53.100</b> | 2.00:1          |
| <b>248.54.100</b> | 2.47:1          |

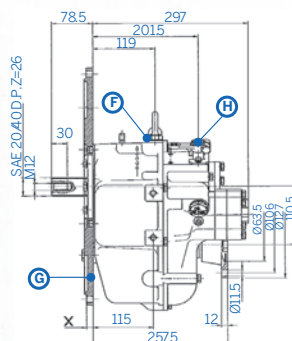
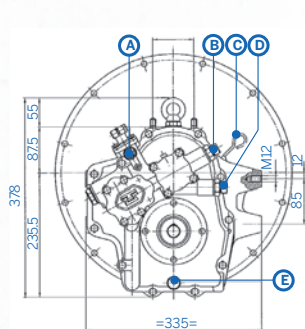
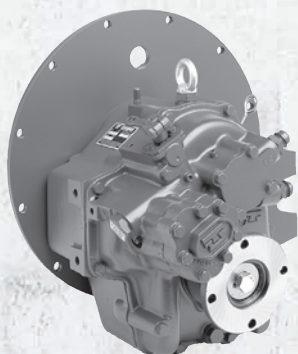
#### NOTE

Housing: SAE 7" (type BW)

**Idle valve kit (Part number 170.12.345)**



# TM93 technodrive



- A Dead centre sensor
- B Return oil line connection from oil cooler
- C Oil level dipstick
- D Oil line connection to oil cooler
- E Drain plug
- F Filler cap
- G Adaptor flange (SAE 3" and BW). X (SAE 3" = 12.5 mm / BW = 13.5 mm)
- H Control lever

The **TM 93** marine transmission is equipped with hydraulically activated multiple disk clutches. The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse

## TECHNICAL SPECIFICATION

|                                     |                                |             |             |               |
|-------------------------------------|--------------------------------|-------------|-------------|---------------|
| <b>Forward ratio</b>                | <b>1.51</b>                    | <b>2.09</b> | <b>2.40</b> | <b>2.77:1</b> |
| <b>Reverse ratio</b>                | <b>1.51</b>                    | <b>2.09</b> | <b>2.40</b> | <b>2.77:1</b> |
| <b>Type</b>                         | <b>Hydraulic</b>               |             |             |               |
| Max. input torque (Nm)              | See technical appendix         |             |             |               |
| Max. input speed                    | See technical appendix         |             |             |               |
| Direction of rotation, output shaft | Bidirectional                  |             |             |               |
| Approximate weight (dry)            | 53 kg (See technical appendix) |             |             |               |
| Oil capacity                        | 2.4 l                          |             |             |               |
| Oil type                            | SAE 15W40                      |             |             |               |
| Max. operating temperature          | 95°C                           |             |             |               |
| Max installation angle              | 15°                            |             |             |               |

## PARTS NUMBERS

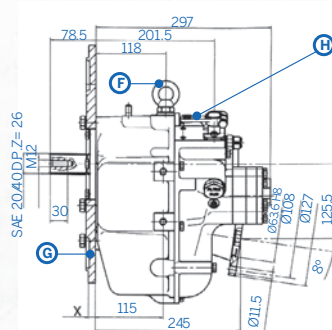
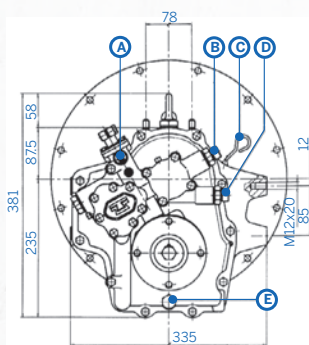
| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.12.000</b> | 1.51:1          |
| <b>248.13.000</b> | 2.09:1          |
| <b>248.14.000</b> | 2.40:1          |
| <b>248.15.000</b> | 2.77:1          |

## NOTE

|                                     |                               |
|-------------------------------------|-------------------------------|
| Housing Adaptor: SAE 3" (x=12.5mm). | <b>Part number 248.10.021</b> |
| Housing Adaptor: SAE 7" (Type BW).  | <b>Part number 248.70.021</b> |
| Idle valve kit.                     | <b>Part number 170.12.093</b> |

# TM93A technodrive

angle 8°



- A Dead centre sensor
- B Return oil line connection from oil cooler
- C Oil level dipstick
- D Oil line connection to oil cooler
- E Drain plug
- F Filler cap
- G Adaptor flange (SAE 3" and BW). X (SAE 3" = 12.5 mm / BW = 13.5 mm)
- H H= Control lever

The **TM 93A** marine transmission is equipped with hydraulically activated multiple disk clutches. The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward gear and in reverse.

The 8° angle of depression of the output shaft makes it possible to correctly install the marine engine-transmission set on planing or semidisplacement hulls.

## TECHNICAL SPECIFICATION

|                                     |                                |             |               |
|-------------------------------------|--------------------------------|-------------|---------------|
| <b>Forward ratio</b>                | <b>1.51</b>                    | <b>2.09</b> | <b>2.40:1</b> |
| <b>Reverse ratio</b>                | <b>1.51</b>                    | <b>2.09</b> | <b>2.40:1</b> |
| <b>Type</b>                         | <b>Hydraulic</b>               |             |               |
| Max. input torque (Nm)              | See technical appendix         |             |               |
| Max. input speed                    | See technical appendix         |             |               |
| Direction of rotation, output shaft | Bidirectional                  |             |               |
| Approximate weight (dry)            | 53 kg (See technical appendix) |             |               |
| Oil capacity                        | 2.4 l                          |             |               |
| Oil type                            | SAE 15W40                      |             |               |
| Max. operating temperature          | 95°C                           |             |               |
| Angle                               | 8°                             |             |               |
| Max installation angle              | 15°                            |             |               |

## PARTS NUMBERS

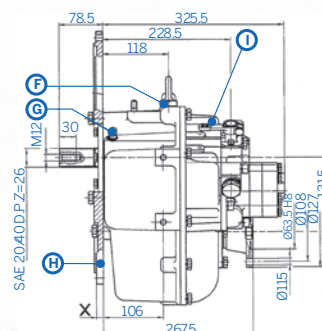
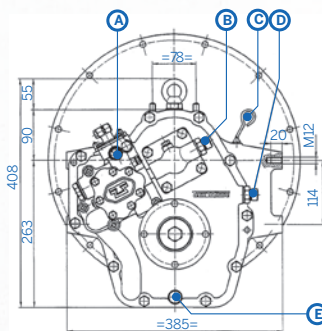
| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.12.100</b> | 1.51:1          |
| <b>248.13.100</b> | 2.09:1          |
| <b>248.14.100</b> | 2.40:1          |

## NOTE

|                                     |                               |
|-------------------------------------|-------------------------------|
| Housing Adaptor: SAE 3" (x=12.5mm). | <b>Part number 248.10.021</b> |
| Housing Adaptor: SAE 3" (Type BW).  | <b>248.70.021</b>             |
| Idle valve kit.                     | <b>170.12.093</b>             |



The **TM 170** marine transmission is equipped with hydraulically activated multiple disk clutches. The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse.



- A Dead centre sensor
- B Return oil line connection from oil cooler
- C Oil level dipstick
- D Oil line connection to oil cooler
- E Drain plug
- F Filler cap safety valve
- G Adaptor flange (SAE 3" and BW), X (SAE 3"=12.5mm/
- H BW = 13.5mm)
- I Control lever

#### TECHNICAL SPECIFICATION

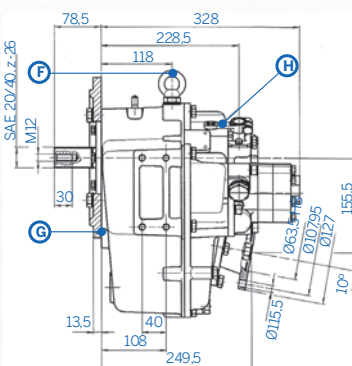
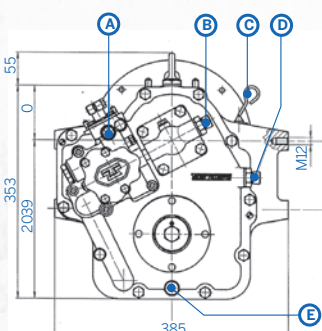
|                                     |                                |             |             |               |
|-------------------------------------|--------------------------------|-------------|-------------|---------------|
| <b>Forward ratio</b>                | <b>1.50</b>                    | <b>2.04</b> | <b>2.50</b> | <b>2.94:1</b> |
| <b>Reverse ratio</b>                | <b>1.50</b>                    | <b>2.04</b> | <b>2.50</b> | <b>2.94:1</b> |
| <b>Type</b>                         | <b>Hydraulic</b>               |             |             |               |
| Max. input torque (Nm)              | See technical appendix         |             |             |               |
| Max. input speed                    | See technical appendix         |             |             |               |
| Direction of rotation, output shaft | Bidirectional                  |             |             |               |
| Approximate weight (dry)            | 75 kg (See technical appendix) |             |             |               |
| Oil capacity                        | 2.8 l                          |             |             |               |
| Oil type                            | SAE 15W40                      |             |             |               |
| Max. operating temperature          | 95°C                           |             |             |               |
| Max installation angle              | 15°                            |             |             |               |

#### NOTE

|                                     |                               |
|-------------------------------------|-------------------------------|
| Housing Adaptor: SAE 3" (x=12.5mm). | <b>Part number 248.10.021</b> |
| Housing Adaptor: SAE 7" (Type BW).  | <b>Part number 248.10.022</b> |
| Idle valve kit.                     | <b>Part number 190.12.170</b> |

#### PARTS NUMBERS

| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.22.000</b> | 1.50:1          |
| <b>248.23.000</b> | 2.04:1          |
| <b>248.24.100</b> | 2.50:1          |
| <b>248.25.000</b> | 2.94:1          |



- A Neutral indicator
- B Oil from cooler
- C Oil dipstick
- D Oil to cooler
- E Oil drain plug
- F Filling plug
- G Mounting flange SAE 3", SAE4 (X=12.5/33), BW (X=13.5)
- H Actuating lever

**TM 880A** marine transmission is built with aluminium alloy housing and equipped with multiple-disc clutches hydraulically operated. Clutches and gears are properly constructed to transmit the full power with the same ratio, both in forward and reverse running. A 10° down angle output shaft provides a proper engine-marine gearbox group installation on planning or semidisplacement boats.

#### TECHNICAL SPECIFICATION

|                            |                               |             |             |
|----------------------------|-------------------------------|-------------|-------------|
| <b>Forward ratio</b>       | <b>1.53</b>                   | <b>2.08</b> | <b>2.60</b> |
| <b>Reverse ratio</b>       | <b>1.53</b>                   | <b>2.08</b> | <b>2.60</b> |
| <b>Type</b>                | <b>Hydraulic</b>              |             |             |
| Angle                      | 10°                           |             |             |
| Max. Input torque (Nm)     | See technical appendix        |             |             |
| Max. Input speed           | See technical appendix        |             |             |
| Direction of rotation      | Bidirectional                 |             |             |
| Approximate weight (dry)   | 54Kg (See technical appendix) |             |             |
| Oil capacity               | 3,7l                          |             |             |
| Oil type                   | SAE 15W40                     |             |             |
| Angle                      | 10°                           |             |             |
| Max. operating temperature | 95°C                          |             |             |

#### PARTS NUMBERS

| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.16.000</b> | 1.53:1          |
| <b>248.17.000</b> | 2.08:1          |
| <b>248.18.000</b> | 2.60:1          |

#### NOTE

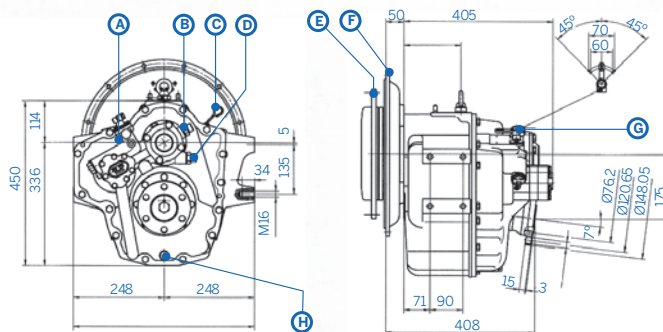
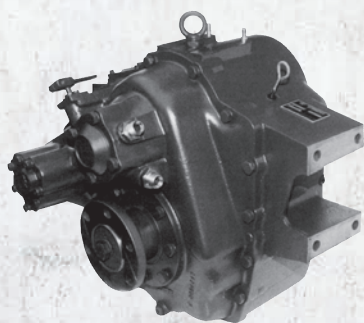
|                        |
|------------------------|
| Kit trolling valve     |
| <b>Ref. 196.12.880</b> |





# TM265A technodrive

angle 10°



- A Filler cap
- B Return oil line connection from oil cooler
- C Oil level dipstick
- D Oil line connection to oil cooler
- E Flexible coupling (SAE 11" 1/2)
- F Adaptor flange (SAE 3" X= 12.5mm)
- G Control lever
- H Drain plug

The **TM 265A** marine transmission is equipped with hydraulically activated multiple disk clutches. The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse.

The 7° angle of depression of the output shaft makes it possible to correctly install the marine engine-transmission set on planing or semidisplacement hulls.

## TECHNICAL SPECIFICATION

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <b>Forward ratio</b>                | <b>2.09 2.30:1</b>              |
| <b>Reverse ratio</b>                | <b>2.09 2.30:1</b>              |
| <b>Type</b>                         | <b>Hydraulic</b>                |
| Max. input torque (Nm)              | See technical appendix          |
| Max. input speed                    | See technical appendix          |
| Direction of rotation, output shaft | Bidirectional                   |
| Approximate weight (dry)            | 165 kg (See technical appendix) |
| Oil capacity                        | 6.6 l                           |
| Oil type                            | SAE 15W40                       |
| Max. operating temperature          | 95°C                            |
| Angle                               | 7°                              |
| Max installation angle              | 15°                             |

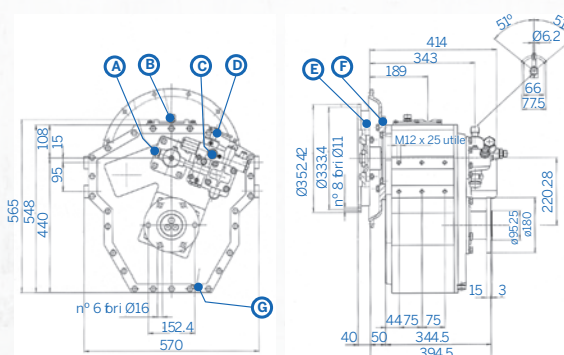
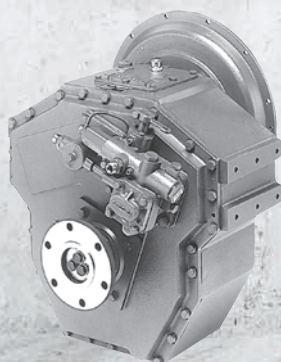
## PARTS NUMBERS

| Part number         | Reduction ratio |
|---------------------|-----------------|
| <b>248.43.100.1</b> | 2.09:1          |
| <b>48.44.000.1</b>  | 2.30:1          |
| <b>248.42.100.1</b> | 1.44:1          |

## NOTE

|                               |                   |
|-------------------------------|-------------------|
| Idle valve kit.               | <b>191.12.265</b> |
| SAE FLYWHEEL = SAE 11.5" SAE  | <b>248.10.021</b> |
| Housing = SAE 3"              | <b>248.70.021</b> |
| Power take off Hydraulic Pump | <b>248.45.250</b> |

# TM200B technodrive



- A Return oil line connection from oil cooler
- B Filler cap
- C Oil line connection to oil cooler
- D Control lever
- E Flexible coupling (SAE 11" 1/2)
- G Adaptor flange (SAE 3" X= 12.5mm)
- H Drain plug

The **TM 200B** marine transmission is equipped with hydraulically activated multiple disk clutches. The case is made of cast iron and the gears are high quality alloy steel, cemented and tempered. All parts of the TM 200B unit have been amply sized for ongoing use.

The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse.

## TECHNICAL SPECIFICATION

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <b>Forward ratio</b>                | <b>3.60 4.48:1</b>              |
| <b>Reverse ratio</b>                | <b>3.60 4.48:1</b>              |
| <b>Type</b>                         | <b>Hydraulic</b>                |
| Max. input torque (Nm)              | See technical appendix          |
| Max. input speed                    | See technical appendix          |
| Direction of rotation, output shaft | Bidirectional                   |
| Approximate weight (dry)            | 235 kg (See technical appendix) |
| Oil capacity                        | 13 l                            |
| Oil type                            | SAE 15W40                       |
| Max. operating temperature          | 95°C                            |
| Max installation angle              | 15°                             |

## PARTS NUMBERS

| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.36.100</b> | 3.60:1          |
| <b>248.37.000</b> | 4.48:1          |

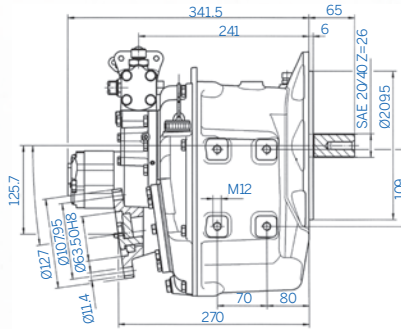
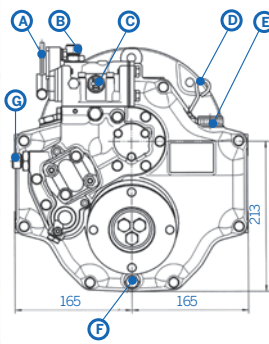
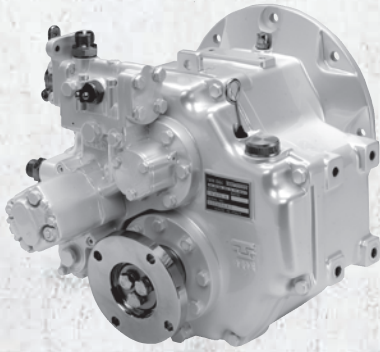
## NOTE

|                          |                               |
|--------------------------|-------------------------------|
| SAE FLYWHEEL = SAE 11.5" | <b>Part number 248.10.021</b> |
| SAE Housing = SAE 3"     | <b>Part number 248.10.022</b> |



# TM485A1 technodrive

angle 8°



- A Control lever
- B Return oil line connection from oil cooler
- C Dead centre sensor
- D Oil level dipstick
- E Filler cap
- F Drain plug
- G Oil line connection to oil cooler

The **TM 485A1** marine transmission is equipped with hydraulically activated multiple disk clutches.

The clutches and gears have been designed to transmit full power, with the same transmission ratio in forward and reverse.

The 8° angle of depression of the output shaft makes it possible to correctly install the marine engine-transmission set on planing or semidisplacement hulls.

## TECHNICAL SPECIFICATION

|                                     |                                |
|-------------------------------------|--------------------------------|
| <b>Forward ratio</b>                | <b>2.09:1</b>                  |
| <b>Reverse ratio</b>                | <b>2.09:1</b>                  |
| <b>Type</b>                         | <b>Hydraulic</b>               |
| Max. input torque (Nm)              | See technical appendix         |
| Max. input speed                    | See technical appendix         |
| Direction of rotation, output shaft | Bidirectional                  |
| Approximate weight (dry)            | 36 kg (See technical appendix) |
| Oil capacity                        | 2.7 l                          |
| Oil type                            | SAE 15W40                      |
| Max. operating temperature          | 95°C                           |
| Angle                               | 8°                             |
| Max installation angle              | 15°                            |

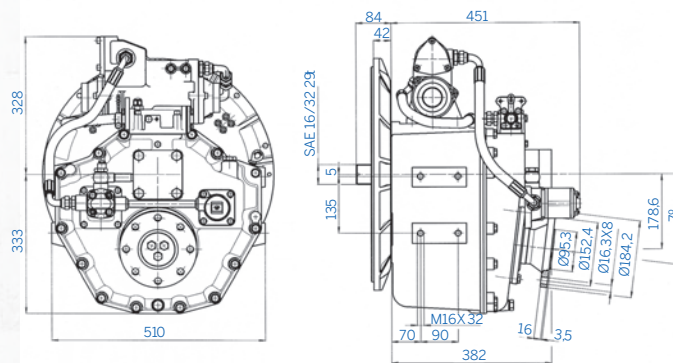
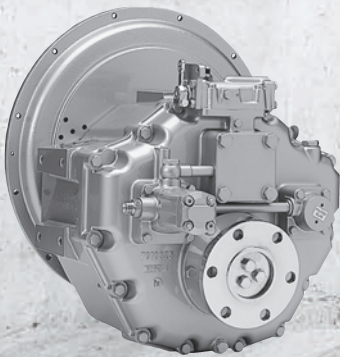
## PARTS NUMBERS

| Part number         | Reduction ratio |
|---------------------|-----------------|
| <b>248.72.200.1</b> | 1,51:1          |
| <b>248.73.200.1</b> | 2,09:1          |
| <b>248.74.200.1</b> | 2,40:1          |

## NOTE

Housing Adaptor: SAE 7" (type BW) **Part num. 248.70.021**

# TM1200A technodrive



**TM 1200A** marine transmission is built with aluminium alloy casing and equipped with multi-disc clutches hydraulically actuated. Clutches and gears are properly constructed to transmit the full power with the same ratio, both in ahead or astern mode. A 7° down angle on output shaft provides a proper enginmarine gearbox group installation on planning or semi-displacement boats.

## TECHNICAL SPECIFICATION

|                            |                                |             |             |
|----------------------------|--------------------------------|-------------|-------------|
| <b>Forward ratio</b>       | <b>1.44</b>                    | <b>2.00</b> | <b>2.30</b> |
| <b>Reverse ratio</b>       | <b>1.44</b>                    | <b>2.00</b> | <b>2.30</b> |
| <b>Type</b>                | <b>Hydraulic</b>               |             |             |
| Angle                      | 7°                             |             |             |
| Max. Input torque (Nm)     | See technical appendix         |             |             |
| Max. Input speed           | See technical appendix         |             |             |
| Direction of rotation      | Bidirectional                  |             |             |
| Approximate weight (dry)   | 120Kg (See technical appendix) |             |             |
| Oil capacity               | 6,5l                           |             |             |
| Oil type                   | SAE 15W40                      |             |             |
| Max. operating temperature | 95°C                           |             |             |
| Max. installation angle    | 15°                            |             |             |

## PARTS NUMBERS

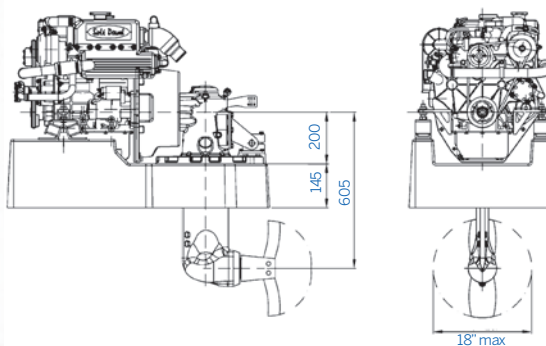
| Part number       | Reduction ratio |
|-------------------|-----------------|
| <b>248.46.000</b> | 1,44:1          |
| <b>248.47.000</b> | 2,00:1          |
| <b>248.48.000</b> | 2,30:1          |

## NOTE

Ref. 248.10.021.2

**SAE housing= SAE 3"**

# sail drive SPROP-60 technodrive



The **SEAPROP 60** transmission is intended for use on recreational craft (displacement hull craft used for recreation or amateur sail boats) or work craft (sail boats with a heavily used displacement hull, intended for hire and professional activities). The body of the sail drive can be turned 180°. Refer to engines on which it can be mounted.

The transmission is equipped with:

- Case
- Anti Vibration Mounts support
- Retaining flange and water-tight membranes for applications over the hull
- Water intake for cooling the engine

## TECHNICAL SPECIFICATION

|                                     |                                |
|-------------------------------------|--------------------------------|
| <b>Forward ratio</b>                | <b>2.15:1</b>                  |
| <b>Reverse ratio</b>                | <b>2.15:1</b>                  |
| <b>Type</b>                         | <b>Mechanical</b>              |
| Max. input torque (Nm)              | See technical appendix         |
| Max. input speed                    | See technical appendix         |
| Direction of rotation, output shaft | Bidirectional                  |
| Approximate weight (dry)            | 35 kg (See technical appendix) |
| Oil capacity                        | 2.8 l                          |
| Oil type                            | ATF                            |
| Max. operating temperature          | 95°C                           |
| Max installation angle              | 0°                             |

## PARTS NUMBERS

| Part number        | Transmission | Reduction ratio |
|--------------------|--------------|-----------------|
| <b>248.13.500A</b> | SPROP-60     | 2.15:1          |

# kits sail drive SPROP-60 technodrive



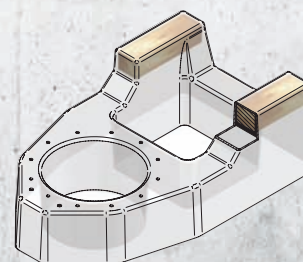
### External Rubber Gasket for SP60

Rubber gasket to be installed between the boat hull and the transmission SP60. This gasket is necessary to assure the sealing between both elements.



### Kit Water Leak Sensor & Alarm SP60

Kit Water Leak Sensor & Alarm SP60. Essential if we want to get alerted from possible water leaking, occurred by breakage of lower rubber membrane from the transmission



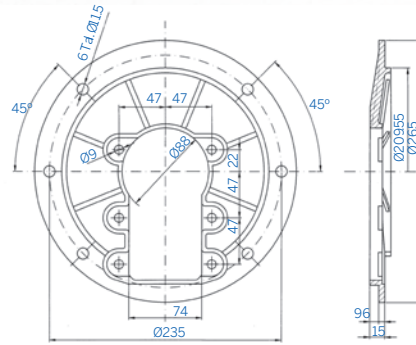
### Fiber glass bed

Fiber glass bed with Gel-Coat paint finish. This bed is needed for Sail Drive SP60 properly installation. Available in three different sizes.

| Description                        | Part number |
|------------------------------------|-------------|
| SP60 fixed propeller's ogive kit   | 248.13.502  |
| External Rubber Gasket for SP60    | 248.13.508  |
| Kit Water Leak Sensor & Alarm SP60 | 248.13.510  |
| Fiber glass bed MINI-17/26/29      | 248.13.509  |
| Fiber glass bed MINI-33/44/55      | 248.13.506  |
| Fiber glass bed MINI-62            | 248.13.507  |



# adaptor flange SAE-7



Adaptor flange SAE-7 (BW type) for marine RONIMV gearboxes, and SMI made of aluminium cast.

## part number

225.10.012

# transom adaptor plate VOLVO TO MCM



Transom adaptor plate VOLVO to MCM stern drives. This plate is specially designed for repowering from VOLVO stern drives to MCM stern drives, avoiding any fiber glass job with possibles imperfections.

## part number

271.01.001

SEE TRANSMISSIONS APPENDIX ON PAGE 84

DEFINITION OF SERVICE TYPES  
INFORMATION ABOUT THE APPLICATION  
RESPONSIBILITIES

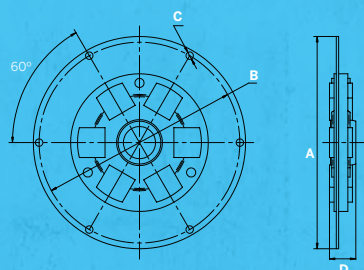
MECHANICAL TRANSMISSIONS

PLEASURE  
INTERMEDIATE SERVICE  
CONTINUOUS SERVICE

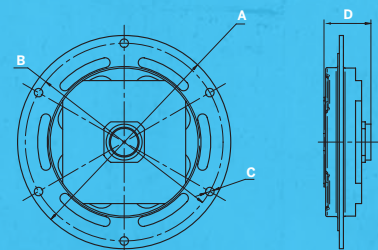
HYDRAULIC TRANSMISSIONS

PLEASURE  
INTERMEDIATE SERVICE  
CONTINUOUS SERVICE

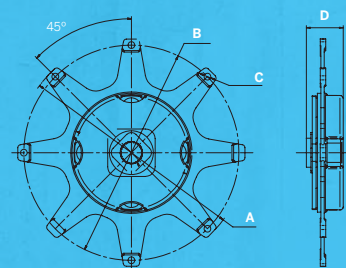
TYPE A



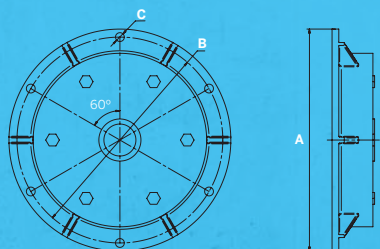
TYPE B



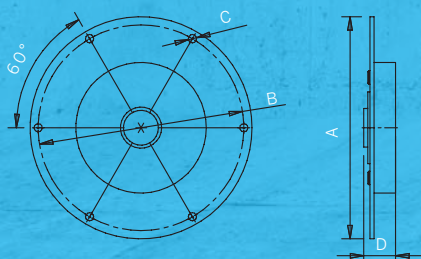
TYPE C



TYPE D



TYPE E



TYPE F

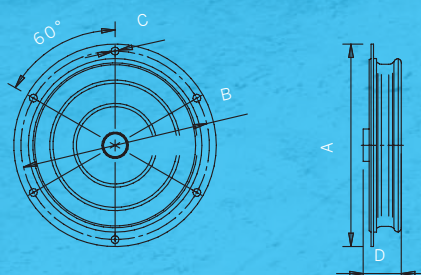


TABLE OF DIMENSIONS AND PART NUMBERS

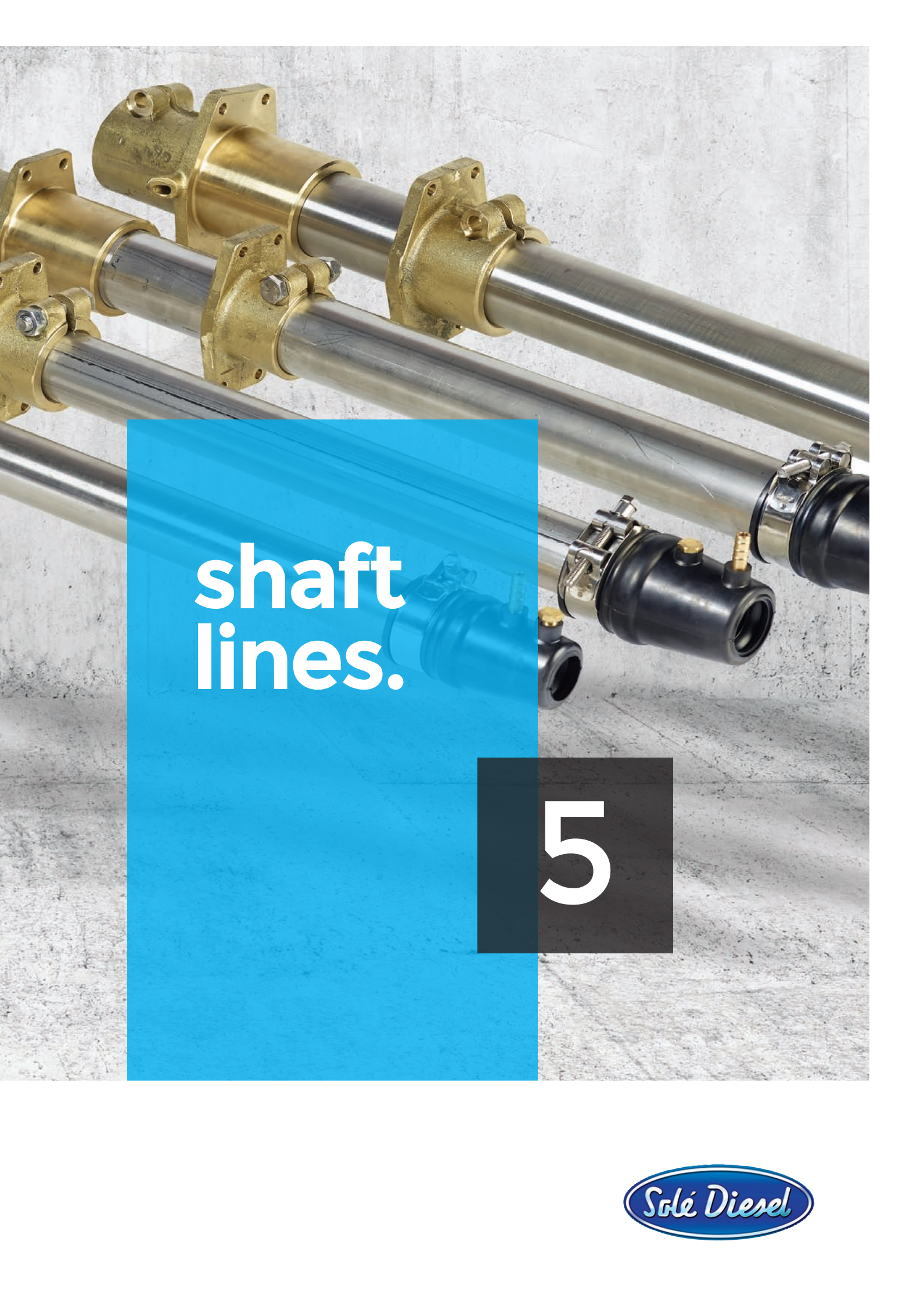
| Splines shaft      | A      | B      | C       | D    | SAE     | Par Máx. (Nxm)<br>Torque Máx. (Nxm) | Type | Ref.        |
|--------------------|--------|--------|---------|------|---------|-------------------------------------|------|-------------|
| SAE 20/40 DP Z=26  | 280    | 255    | 6xØ8.5  | 28   | ---     | FOR HYUNDAI D170P                   | A    | H001065S301 |
| SAE 20/40 DP Z=26  | 280    | 255    | 6xØ8.5  | 28   | ---     | FOR HYUNDAI D170P                   | A    | H001067D301 |
| 029/23x10 DIN-5464 | 155    | 142    | 8xØ6.5  | 23   | ---     | 100                                 | A    | 13110040    |
| SAE 1-3/4" Z=10    | 155    | 142    | 8xØ8.5  | 23   | ---     | 100                                 | A    | 13112003    |
| SAE 1-3/4" Z=10    | 155    | 142    | 8xØ6.5  | 17.5 | ---     | 100                                 | A    | 13510010    |
| SAE 1-3/4" Z=10    | 155    | 142    | 8xØ10.5 | 13   | ---     | 100                                 | A    | 13710010    |
| 029/23x10 DIN-5464 | 185    | 175    | 6xØ6.5  | 23   | ---     | 76                                  | A    | * 13810040  |
| 029/23x10 DIN-5464 | 215.9  | 200    | 6xØ8.5  | 23   | 6" 1/2  | 100                                 | A    | 13810046    |
| 029/23x10 DIN-5464 | 185    | 175    | 6xØ6.5  | 23   | ---     | 130                                 | A    | 14710070    |
| SAE 20/40 DP Z=26  | 300    | 262    | 6xØ8.5  | 22.5 | ---     | 75                                  | A    | 14910010    |
| SAE 20/40 DP Z=26  | 270    | 248    | 6xØ8.5  | 22.5 | ---     | 75                                  | A    | 15310050    |
| 029/23x10 DIN-5464 | 185    | 175    | 6xØ6.5  | 28   | ---     | 100                                 | A    | 17010070    |
| 029/23x10 DIN-5464 | 263.52 | 244.48 | 6xØ10.5 | 23   | 8"      | 150                                 | A    | 17110070    |
| 029/23x10 DIN-5464 | 185    | 175    | 6xØ6.5  | 23   | ---     | 100                                 | A    | 17310070    |
| 029/23x10 DIN-5464 | 352.42 | 333.37 | 6xØ10.5 | 23   | 11" 1/2 | 115                                 | A    | 17410070    |
| 029/23x10 DIN-5464 | 263.52 | 244.48 | 6xØ10.5 | 23   | 8"      | 210                                 | A    | 18210070    |

(\*) 13810040 part number out of catalogue, replaced by 17310070

| Splines shaft       | A      | B      | C       | D    | SAE     | Par Máx. (Nxm)<br>Torque Máx. (Nxm) | Type | Ref.     |
|---------------------|--------|--------|---------|------|---------|-------------------------------------|------|----------|
| SAE 20/40 DP Z=26   | 280    | 255    | 6xØ8.5  | 58   | ---     | FOR HYUNDAI S170P                   | B    | 10010170 |
| SAE 20/40 DP Z=26   | 306    | 290    | 6xØ8.5  | 60   | ---     | FOR HYUNDAI S250P                   | B    | 10110170 |
| SAE 24/48 DP Z=20   | 175    | 163    | 6xØ6.8  | 33   | ---     | 240                                 | F    | 13810042 |
| SAE 20/40 DP Z=26   | 352.42 | 333.37 | 6xØ10.5 | 57   | 11" 1/2 | 700 520 420                         | C    | 16510170 |
| 19MM. 24/48 DP,Z=17 | 352.4  | 333.4  | 8xØ11   | ---  | 11" 1/2 | 700 520 420                         | C    | 16510171 |
| 029/23x10 DIN-5464  | 352.4  | 333.4  | 8xØ11   | ---  | 11" 1/2 | 700 520 420                         | C    | 16510172 |
| SAE 20/40 DP Z=26   | 352.4  | 333.4  | 8xØ11   | ---  | 11" 1/2 | 1000 800 600                        | C    | 16710070 |
| SAE 20/40 DP Z=26   | 215.85 | 200    | 6xØ8.1  | 31   | 6" 1/2  | 135                                 | E    | 17010071 |
| 029/23x10 DIN-5464  | 215.85 | 200    | 6xØ8.1  | 32   | 6" 1/2  | 135                                 | E    | 17010072 |
| SAE 20/40 DP Z=26   | 263.52 | 244.48 | 6xØ10.5 | 58   | 8"      | 258 200 150                         | B    | 17110071 |
| SAE 1" Z=10         | 263.52 | 244.5  | 6xØ9.5  | 35   | 8"      | 135                                 | E    | 17110073 |
| SAE 20/40 DP Z=26   | 215.9  | 200    | 6xØ9    | 58   | ---     | 150 120 100                         | B    | 17210071 |
| 19MM. 24/48 DP,Z=17 | 215.9  | 200    | 6xØ9    | 32   | 6" 1/2  | 135                                 | E    | 17210072 |
| 029/23x10 DIN-5464  | 215.9  | 200    | 6xØ9    | 32   | 6" 1/2  | 135                                 | E    | 17210076 |
| 029/23x10 DIN-5464  | 284    | 268    | 6xØ9    | 45   | 10"     | 700 520 420                         | B    | 18010170 |
| SAE 20/40 DP Z=26   | 284    | 268    | 6xØ9    | 44   | 10"     | 700 520 420                         | B    | 18010171 |
| SAE 1-3/4" Z=10     | 263.52 | 244.47 | 6xØ11   | 44   | 8"      | 650 500 400                         | B    | 18310170 |
| SAE 20/40 DP Z=26   | 263.52 | 244.47 | 6xØ11   | 44   | 8"      | 650 500 400                         | B    | 18310171 |
| SAE 20/40 DP Z=26   | 263.5  | 244.47 | 6xØ10.5 | 51.5 | 8"      | 700 560 490                         | D    | 18310172 |
| SAE 20/40 DP Z=26   | 263.52 | 244.48 | 6xØ10.5 | 58   | 8"      | 700 520 420Z                        | B    | 18510170 |

Service: ↑ Pleasure ↑ Intermediate ↑ Heavy duty





shaft  
lines.

5



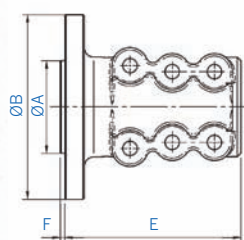


# clamp-on couplings

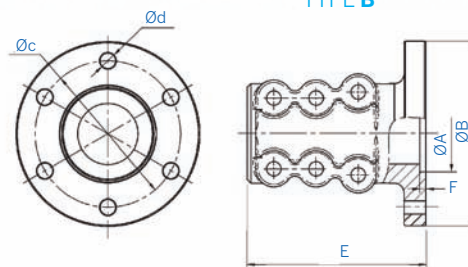


SG iron clamp-on couplings. Keyway not required.

TYPE A



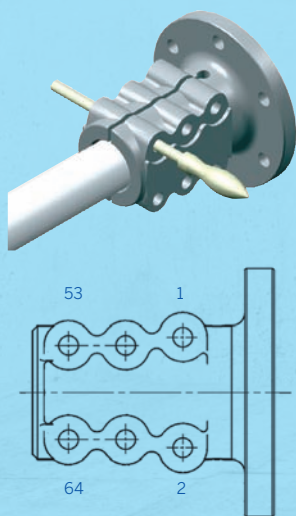
TYPE B



## TECHNICAL SPECIFICATION AND PARTS NUMBERS

| Ø Shaft | Type | ØA   | ØB    | ØC    | Ød     | E   | F | Transmission       | Type                                          | Part number       |
|---------|------|------|-------|-------|--------|-----|---|--------------------|-----------------------------------------------|-------------------|
| 19      | A    | 33   | 62    | 50    | 3x8.5  | 64  | 3 | <b>Solé Diesel</b> | <b>Ronim III</b>                              | <b>400.19.107</b> |
| 22      | A    | 63.5 | 102   | 82.5  | 4x10.5 | 81  | 2 | <b>Solé Diesel</b> | <b>Ronim-V SMI-R SMI-R2 SMI-R3</b>            | <b>400.22.106</b> |
|         |      |      |       |       |        |     |   | PRM                | PRM-120/150 Delta                             |                   |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW35/40/50/100/125/250 HBW150-A/V            |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TMC40 - TMC60</b>                          |                   |
|         |      |      |       |       |        |     |   | Kanzaki            | TTMC35P - TTMC35A2                            |                   |
|         | A    | 65   | 93    | 77    | 2xØ9   | 63  | 2 | Covach             | AS-16                                         | <b>400.22.107</b> |
| 25      | A    | 33   | 62    | 50    | 3x8.5  | 64  | 3 | <b>Solé Diesel</b> | <b>Ronim III</b>                              | <b>400.25.107</b> |
|         | A    | 50   | 100   | 78    | 4x10.5 | 82  | 3 | Yanmar             | KM2-P M3-P KBW-10E KM3A                       | <b>400.25.109</b> |
|         | B    | 60   | 102   | 80    | 4x10.5 | 83  | 4 | Volvo              | MS-2A MS-2A-L                                 | <b>400.25.108</b> |
|         | A    | 63.5 | 102   | 82.5  | 4x10.5 | 81  | 2 | <b>Solé Diesel</b> | <b>Ronim-V SMI-R SMI-R2 SMI-R3</b>            | <b>400.25.106</b> |
|         |      |      |       |       |        |     |   | PRM                | PRM-120/150 Delta                             |                   |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW35/40/50/100/125/250 HBW150-A/V            |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TMC40 - TMC60</b>                          |                   |
|         |      |      |       |       |        |     |   | Kanzaki            | TTMC35P - TTMC35A2                            |                   |
|         | A    | 65   | 93    | 77    | 2xØ9   | 63  | 2 | Covach             | AS-16                                         | <b>400.25.117</b> |
| 30      | A    | 50   | 100   | 78    | 4x10.5 | 105 | 2 | Yanmar             | KM2-P M3-P KBW-10E KM3A                       | <b>400.30.109</b> |
|         | B    | 60   | 102   | 80    | 4x10.5 | 106 | 4 | Volvo              | MS-2A MS-2A-L MS-25-L MS-25-A                 | <b>400.30.107</b> |
|         | A    | 63.5 | 102   | 82.5  | 4x10.5 | 104 | 2 | <b>Solé Diesel</b> | <b>Ronim-V SMI-R SMI-R2 SMI-R3</b>            | <b>400.30.106</b> |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW35/40/50/100/125/250 - HBW150-AV - HSW250A |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TMC40 - TMC60</b>                          |                   |
|         |      |      |       |       |        |     |   | PRM                | PRM-120/150 Delta                             |                   |
|         |      |      |       |       |        |     |   | Kanzaki            | TTMC35P - TTMC35A2                            |                   |
|         | A    | 65   | 120   | 100   | 4x10.5 | 105 | 2 | Yanmar             | KBW-20/21 KM-4A KMH4A                         | <b>400.30.112</b> |
|         | A    | 63.5 | 127   | 108   | 4x11.5 | 105 | 2 | Volvo              | MS-4 HS-1 HS-1A                               | <b>400.30.108</b> |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW360H HSW450A/V HSW630A/H/V                 |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TM345A/545A/93/93A/170/880A</b>            |                   |
|         |      |      |       |       |        |     |   | PRM                | PRM-160/260                                   |                   |
|         |      |      |       |       |        |     |   | Borg Warner        | BW-71/72C VDrive                              |                   |
| 35      | B    | 60   | 102   | 80    | 4x10.5 | 107 | 5 | Volvo              | MS-2A MS-2A-L MS25L MS25A                     | <b>400.35.111</b> |
|         | A    | 63.5 | 102   | 82.5  | 4x10.5 | 105 | 2 | <b>Solé Diesel</b> | <b>Ronim-V SMI-R SMI-R2 SMI-R3</b>            | <b>400.35.107</b> |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW35/40/50/100/125/250 HBW150-A/V            |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TMC40 - TMC60</b>                          |                   |
|         |      |      |       |       |        |     |   | PRM                | Delta - PRM120/150                            |                   |
|         |      |      |       |       |        |     |   | Kanzaki            | TTMC35P - TTMC35A2                            |                   |
|         | A    | 65   | 120   | 100   | 4x10.5 | 105 | 4 | Yanmar             | KBW-20/21 KM-4A KMH4A                         | <b>400.35.108</b> |
|         | A    | 63.5 | 127   | 108   | 4x11.5 | 105 | 4 | Volvo              | MS-4 MS-45A HS-1 HS-25A                       | <b>400.35.106</b> |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW360H HSW450A/V HSW630A/H/V                 |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TM345A/545A/93/93A/170/880A</b>            |                   |
|         |      |      |       |       |        |     |   | PRM                | PRM-160/260                                   |                   |
|         |      |      |       |       |        |     |   | Borg Warner        | BW-71/72C VDrive                              |                   |
|         | A    | 63.5 | 130   | 108   | 4x12.5 | 105 | 4 | Yanmar             | K-45A                                         | <b>400.35.109</b> |
| 40      | A    | 63.5 | 102   | 82.5  | 4xM10  | 126 | 4 | <b>Solé Diesel</b> | <b>SMI-R SMI-R2 SMI-R3</b>                    | <b>400.40.107</b> |
|         | A    | 63.5 | 127   | 108   | 4x11.5 | 126 | 4 | Volvo              | MS-4 HS-45A HS-1 HS63AE HS-25A                | <b>400.40.106</b> |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW360H HSW450A/V HSW630A/H/V                 |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TM345A/545A/93/93A/170/880A</b>            |                   |
|         |      |      |       |       |        |     |   | PRM                | PRM-160/260                                   |                   |
|         |      |      |       |       |        |     |   | Borg Warner        | BW-71/72C VDrive                              |                   |
|         | A    | 63.5 | 130   | 108   | 4x12.5 | 126 | 4 | Yanmar             | K-45A                                         | <b>400.40.108</b> |
| 45      | A    | 63.5 | 127   | 108   | 4x11.5 | 140 | 4 | Volvo              | MS-4 HS-1 HS-25A HS-63AE                      | <b>400.45.108</b> |
|         |      |      |       |       |        |     |   | ZF-HURTH           | HBW360H HSW450A/V HSW630A/H/V                 |                   |
|         |      |      |       |       |        |     |   | Yanmar             | KMH50A                                        |                   |
|         |      |      |       |       |        |     |   | <b>Technodrive</b> | <b>TM345A/545A/93/93A/170/880A</b>            |                   |
|         |      |      |       |       |        |     |   | PRM                | PRM-160/260                                   |                   |
|         |      |      |       |       |        |     |   | Borg Warner        | BW-71/72C VDrive                              |                   |
|         | A    | 76.2 | 152.4 | 120.7 | 6xØ13  | 140 | 4 | PRM                | PRM-302/402/601/750/1000                      | <b>400.45.107</b> |
|         | B    |      | 146   |       | 6xØ17  | 141 | 4 | <b>Technodrive</b> | <b>TM-265/265A</b>                            | <b>400.45.109</b> |
| 50      | B    | 63.5 | 121   | 98.4  | 6xM12  | 148 | 4 | ZF                 | IRM-220 / 220A                                | <b>400.50.110</b> |
|         | A    |      | 127   | 108   | 4xM12  | 146 | 4 | <b>Technodrive</b> | <b>TM-170 / 880A</b>                          | <b>400.50.109</b> |
|         |      |      |       |       |        |     |   | Borg Warner        | BW-71C/72C VDrive                             |                   |
|         | A    | 76.2 | 152.4 | 120.7 | 6xØ13  | 146 | 4 | PRM                | PRM-302/402/601/750/1000                      | <b>400.50.107</b> |
|         | B    | 76.2 | 146   | 120.7 | 6xØ17  | 148 | 4 | <b>Technodrive</b> | <b>TM-265 / 265A</b>                          | <b>400.50.108</b> |
|         |      |      |       |       |        |     |   | ZF                 | ZF-280/280A                                   |                   |

## ASSEMBLY INSTRUCTIONS



## DIMENSIONS TABLE

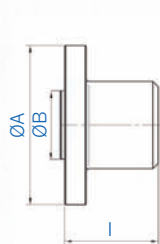
| ØShaft | Screw | Quality | Torque      |
|--------|-------|---------|-------------|
| 19     | M8    | 12.9.4  | kg x m      |
| 22     | M10.8 | .8.5    | kg x m      |
| 25     | M10.8 | .8.5    | kg x m      |
| 30     | M10.8 | .8.5    | kg x m      |
| 35     | M10.1 | 2.9     | 8.3 kg x m  |
| 40     | M12.1 | 2.9     | 14.5 kg x m |
| 45     | M12.1 | 2.9     | 14.5 kg x m |
| 50     | M12.1 | 2.9     | 14.5 kg x m |



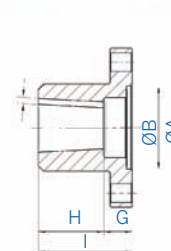
## half couplings



TYPE A



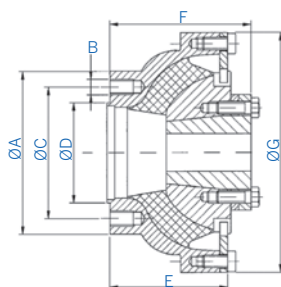
TYPE B



## TECHNICAL SPECIFICATION AND PARTS NUMBERS

| ØShaft | Type | ØA   | ØB    | ØC     | ØD       | E  | F   | G   | H  | I   | Transmission       | Type                                                      | Part number  |
|--------|------|------|-------|--------|----------|----|-----|-----|----|-----|--------------------|-----------------------------------------------------------|--------------|
| 35     | A    | 127  | 63.5  | 108    | 4xØ11.5  | 10 | 3.7 | 24  | 60 | 84  | ZF-HURTH           | HBW360H/HSW450AH/HSW630AHV/ZF 45A                         | 400.35.005A  |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM345A/545A/93 TM/93A/170/880A</b>                     |              |
|        |      |      |       |        |          |    |     |     |    |     | PRM                | PRM-160/260                                               |              |
|        |      |      |       |        |          |    |     |     |    |     | B. Warner          | BW-71C/72C VDrive                                         |              |
| 40     | A    | 120  | 65    | 100    | 4xØ10.5  | 10 | 3.7 | 37  | 60 | 97  | Volvo              | MS-4 MS-1 HS-1A HS45A HS63AE HS63IV                       | 400.35.006A  |
|        | A    | 127  | 63.5  | 108    | 4xØ11.5  | 12 | 3.7 | 24  | 60 | 84  | Yanmar             | KBW-20 KM-4A KMH4A KMH40A                                 | 400.40.005A  |
|        |      |      |       |        |          |    |     |     |    |     | ZF-HURTH           | HBW360H/HSW450AH/HSW630AHV                                | 400.40.005A  |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM93A/93 TM345/TM545A TM345A/345 TM170/880A</b>        |              |
| 45     | A    | 127  | 63.5  | 108    | 4xØ11.5  | 14 | 4.2 | 26  | 60 | 86  | PRM                | PRM-160/260                                               |              |
|        |      |      |       |        |          |    |     |     |    |     | B. Warner          | BW-71C/72C VDrive                                         |              |
|        |      |      |       |        |          |    |     |     |    |     | Volvo              | MS-4 MS-1 HS-1A HS45A HS63AE HS63IV                       |              |
|        |      |      |       |        |          |    |     |     |    |     | Yanmar             | KMH40A KMH50A                                             |              |
| 45     | A    | 127  | 63.5  | 108    | 4xØ11.5  | 14 | 4.2 | 26  | 60 | 86  | ZF                 | ZF-63-IV                                                  | 400.40.008A  |
|        | B    | 146  | 76.2  | 120    | 6xØ16.5  | 12 | 3.7 | 30  | 60 | 90  | ZF                 | ZF-80A                                                    | 400.40.006A  |
|        |      |      |       |        |          |    |     |     |    |     | Volvo              | HS80EA                                                    |              |
|        |      |      |       |        |          |    |     |     |    |     | ZF-HURTH           | HBW360H ZF-45A HSW450AH HSW630AHV                         | 400.45.005A  |
| 45     | A    | 127  | 63.5  | 108    | 4xØ11.5  | 14 | 4.2 | 26  | 60 | 86  | <b>Technodrive</b> | <b>TM345A/545A/93 TM/93A/170/880A TM485A</b>              |              |
|        |      |      |       |        |          |    |     |     |    |     | PRM                | PRM-160/260                                               |              |
|        |      |      |       |        |          |    |     |     |    |     | B. Warner          | BW-71C/72C VDrive                                         |              |
|        |      |      |       |        |          |    |     |     |    |     | Volvo              | MS-4 HS-1 HS-1A                                           |              |
| 45     | B    | 146  | 76.2  | 120    | 6xØ16.5  | 14 | 4.2 | 26  | 60 | 86  | Yanmar             | KMH40A KMH50A                                             |              |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM-265/265A</b>                                        | 400.45.006A  |
|        |      |      |       |        |          |    |     |     |    |     | ZF                 | ZF-280A                                                   |              |
|        |      |      |       |        |          |    |     |     |    |     | TWIN               | MG-5061A MG-5050A                                         |              |
| 45     | B    | 184  | 95.25 | 152.4  | 6xØ19.5  | 14 | 4.2 | 45  | 60 | 105 | Yanmar             | KMH60A                                                    |              |
|        |      |      |       |        |          |    |     |     |    |     | TWIN               | MG-5085A                                                  | 400.45.007A  |
|        | B    | 146  | 72.6  | 120    | 6xØ16.5  | 14 | 4.2 | 31  | 60 | 91  | ZF                 | ZF-80A                                                    | 400.45.009A  |
|        |      |      |       |        |          |    |     |     |    |     | Volvo              | HS80EA                                                    |              |
| 45     | B    | 155  | 100   | 125    | 10xØ16.2 | 14 | 4.2 | 26  | 60 | 86  | ZF                 | ZF-305A                                                   | 400.45.010A  |
|        | A    | 127  | 63.5  | 108    | 4xØ12    | 14 | 4.2 | 20  | 60 | 80  | ZF                 | ZF-63-IV                                                  | 400.45.011A  |
|        | B    | 146  | 76.2  | 120.6  | 6xØ13    | 14 | 4.2 | 20  | 60 | 80  | ZF                 | ZF-80-IV                                                  | 400.45.012A  |
|        | B    | 121  | 63.5  | 98.42  | 6xØ12.5  | 14 | 4.2 | 26  | 60 | 86  | ZF - HURTH         | IRM 220A                                                  | 400.45.013A  |
| 50     | A    | 127  | 63.5  | 108    | 4xØ12    | 14 | 4.2 | 26  | 60 | 86  | ZF-HURTH           | HBW360H/HSW450AH/HSW630AHV                                | 400.50.005A  |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM93A/93 TM545A/TM545 TM345A/345 TM170/880A TM485A</b> |              |
|        |      |      |       |        |          |    |     |     |    |     | PRM                | PRM-160/260                                               |              |
|        |      |      |       |        |          |    |     |     |    |     | B. Warner          | BW-71C/72C VDrive                                         |              |
| 50     | B    | 146  | 76.2  | 120.65 | 6xØ16.5  | 14 | 4.2 | 26  | 60 | 86  | Volvo              | MS-4 MS-1 HS-1A                                           |              |
|        |      |      |       |        |          |    |     |     |    |     | Yanmar             | KMH50A                                                    |              |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM-265/265A</b>                                        | 400.50.006A  |
|        |      |      |       |        |          |    |     |     |    |     | ZF                 | ZF-80A / ZF-280/280A/220/286A                             |              |
| 50     | A    | 127  | 63.5  | 108    | 4xØ12    | 14 | 4.2 | 20  | 60 | 76  | TWIN DISC          | MG-5061A MG-5050A                                         |              |
|        | B    | 121  | 63.5  | 98.42  | 6xØ12.5  | 14 | 4.2 | 26  | 60 | 86  | Yanmar             | KMH60A                                                    |              |
|        | B    | 146  | 76.2  | 120.65 | 6xØ13    | 14 | 4.2 | --- | 60 | 80  | ZF-HURTH           | HSW-800-VI                                                | 400.50.009A  |
|        | B    | 155  | 100   | 125    | 10xØ16.2 | 14 | 4.2 | 26  | 60 | 86  | ZF                 | ZF-305A                                                   | 400.50.010A  |
| 50     | B    | 184  | 95    | 152.4  | 6xØ19.5  | 14 | 4.2 | 45  | 60 | 105 | TWIN DISC          | MG-5081A MG-5085A                                         | 400.50.011A  |
|        | B    | 155  | 100   | 125    | 10xØ16.2 | 14 | 4.2 | 50  | 60 | 110 | ZF                 | ZF-305A                                                   | 400.50.012A  |
|        | B    | 205  | 140   | 170    | 10xØ18.5 | 14 | 4.2 | 45  | 60 | 105 | ZF                 | ZF-325-IV                                                 | 400.50.013A  |
|        | B    | 170  | 115   | 140    | 12xØ16.5 | 14 | 4.2 | 45  | 60 | 105 | ZF                 | ZF-325-IV                                                 | 400.50.014A  |
| 60     | B    | 146  | 76.2  | 120.6  | 6xØ16.5  | 18 | 5.3 | 42  | 68 | 110 | ZF-HURTH           | HSW/HSWE-630V                                             | 400.50.007A  |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM-265/265A</b>                                        | 400.60.006A  |
|        |      |      |       |        |          |    |     |     |    |     | ZF                 | ZF-80A / ZF-280A                                          |              |
|        |      |      |       |        |          |    |     |     |    |     | TWIN DISC          | MG-5061A MG-5050A                                         |              |
| 60     | B    | 184  | 95.25 | 152.4  | 6xØ16.5  | 18 | 5.3 | 42  | 68 | 110 | Yanmar             | KMH60A                                                    |              |
|        |      |      |       |        |          |    |     |     |    |     | <b>Technodrive</b> | <b>TM-200</b>                                             | 400.60.008A  |
|        | B    | 184  | 95.3  | 152.4  | 8xØ16.5  | 18 | 5.3 | 42  | 68 | 110 | ZF                 | ZF-311A                                                   | 400.60.009A  |
|        | B    | Ø155 | Ø100  | 125    | 10xØ16.5 | 18 | 5.3 | 42  | 68 | 110 | ZF                 | ZF-305A                                                   | 400.60.013A  |
| 60     | A    | 127  | 63.5  | 108    | 4xØ12    | 18 | 5.3 | 24  | 66 | 90  | <b>Technodrive</b> | <b>TM345/345A/545A/93/93A TM170/880A TM485A</b>           | 400.60.014A  |
|        |      |      |       |        |          |    |     |     |    |     | ZF                 | ZF-63-A                                                   |              |
|        |      |      |       |        |          |    |     |     |    |     | ZF                 | ZF-63-IV                                                  | 400.60.017Az |
|        | A    | 127  | 63.5  | 108    | 4xØ12    | 18 | 5.3 | --- | 68 | 64  | ZF                 | ZF-63-IV                                                  | 400.60.017Az |

# CENTAFLEX type flexible couplings



## SELECTION EXAMPLE

$P' =$  Engine power = 40 HP  
 $N =$  maximum engine rpm = 3000 rpm  
 $R =$  Gearbox Reduction Ratio = 2:1 = 2  
 $N' =$  Shaft Revolutions =  $N / R = 3000 / 2 = 1500$  rpm  
 $P =$  Coupling - Permissible Power  $P = \frac{N'}{100} \times f \rightarrow P \geq P'$   
 Our engine has an SMI-R3 ( $\text{ØD}=63.5$ ) gearbox, so we look in the catalogue for a coupling that fits the gearbox's flange. We choose the 400.25.200 and determine its admissible power  $P$ .  
 $P = (1500 / 100) \times 2.8 = 42 \text{ HP} \geq 40 \text{ HP} \rightarrow \text{correct}$

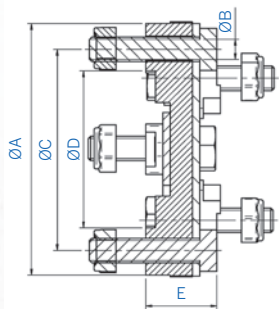
Flexible couplings solve problems due to alignment and centring of shafts. Moreover, flexible couplings facilitate assembly by providing a tolerance of 2° when aligning and centring the shaft over the gearbox fixing plate.

## DIMENSIONS AND PART NUMBERS

| Ø  | ØA  | ØB  | ØC   | ØD   | E  | F   | ØG  | f   | Transmission               | Ref        |
|----|-----|-----|------|------|----|-----|-----|-----|----------------------------|------------|
| 25 | 102 | M10 | 82.5 | 63.5 | 75 | 95  | 150 | 2.8 | ZF, B. Warner, Technodrive | 400.25.200 |
| 30 | 102 | M10 | 82.5 | 63.5 | 75 | 95  | 150 | 2.8 | ZF, B. Warner, Technodrive | 400.30.200 |
| 30 | 127 | M10 | 82.5 | 63.5 | 97 | 125 | 195 | 5.6 | ZF, B. Warner, Technodrive | 400.30.210 |
| 35 | 127 | M10 | 82.5 | 63.5 | 97 | 125 | 195 | 5.6 | ZF, B. Warner, Technodrive | 400.35.200 |

Dimensions in mm

# R&D type flexible couplings



## SELECTION EXAMPLE

$P' =$  Engine power = 40 HP  
 $N =$  maximum engine rpm = 3000 rpm  
 $R =$  Gearbox Reduction Ratio = 2:1 = 2  
 $N' =$  Shaft Revolutions =  $N / R = 3000 / 2 = 1500$  rpm  
 $P =$  Coupling - Permissible Power  $P = \frac{N'}{100} \times f \rightarrow P \geq P'$   
 Our engine has an SMI-R3 ( $\text{ØD}=63.5$ ) gearbox, so we look in the catalogue for a coupling that fits the gearbox's flange. We choose the 400.25.100 and determine its admissible power  $P$ .  
 $P = (1500 / 100) \times 3 = 45 \text{ HP} \geq 40 \text{ HP} \rightarrow \text{correct}$

Flexible couplings are made of hard but elastic polyurethane and are able to withstand any temporary engine/shaft misalignment. They are provided with the bolts and nuts necessary for installation.

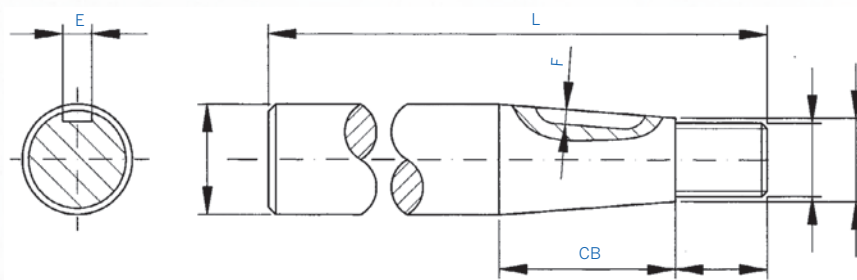
## DIMENSIONS AND PART NUMBERS

| ØA  | ØB     | ØC    | ØD   | E   | F  | Transmission                                    | Ref        |
|-----|--------|-------|------|-----|----|-------------------------------------------------|------------|
| 102 | 4x9.9  | 82.55 | 63.5 | 28  | 3  | SOLÉ DIESEL, B. Warner, PRM, Hurth, Technodrive | 400.25.100 |
| 102 | 4x9.9  | 82.55 | 63.5 | 31  | 8  | SOLÉ DIESEL, B. Warner, PRM, Hurth              | 400.30.100 |
| 142 | 4x11.2 | 108   | 63.5 | 41  | 13 | B. Warner, PRM, Hurth, Technodrive              | 400.40.100 |
| 142 | 4x11.2 | 108   | 63.5 | 52  | 20 | B. Warner, PRM, Hurth, Technodrive              | 400.45.100 |
| 155 | 6x16   | 120.6 | 76.2 | 50  | 28 | Technodrive (TM) - 265)                         | 400.50.100 |
| 223 | 10x18  | 170   | 140  | 124 | 75 | ZF325IV                                         | 400.50.101 |

Dimensions in mm



# stainless steel AISI 329 shafts



Ground (h9 finish) standard or AISI-329 stainless steel shafts machined on the end of the propeller, with propeller key, nut with anode and safety washer. Taper 1:10 according to norm ISO-4566. Except for 19 mm Ø shafts.

AISI 329 steel offers mechanical properties that are superior to those of standard steel, allowing for a smaller-diameter shaft capable of withstanding greater stresses. This becomes an advantage for ships requiring greater engine power without sacrificing the existing sterntube and propeller strut, thus representing a major savings for the shipowner.

## DIMENSIONS

|             | Ø19     | Ø25         | Ø30         | Ø35         | Ø40         | Ø45         | Ø50         | Ø60         |
|-------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>A</b>    | M14x1.5 | M16x1.5     | M20x1.5     | M24x2       | M24x2       | M30x2       | M36x3       | M42x3       |
| <b>B</b>    | 25      | 25          | 25          | 32          | 32          | 40          | 40          | 50          |
| <b>C</b>    | 38      | 55          | 73          | 84          | 94          | 104         | 110         | 130         |
| <b>D</b>    | Ø14.8   | Ø19.5       | Ø22.7       | Ø26.6       | Ø30.6       | Ø34.6       | Ø39         | Ø47         |
| <b>E</b>    | 5       | 8           | 8           | 10          | 12          | 14          | 14          | 18          |
| <b>F</b>    | 5.2     | 4           | 4           | 4.5         | 4.5         | 5           | 5           | 6           |
| <b>Cone</b> | 3°30'   | 1:10(2°52') | 1:10(2°52') | 1:10(2°52') | 1:10(2°52') | 1:10(2°52') | 1:10(2°52') | 1:10(2°52') |

Dimensions in mm

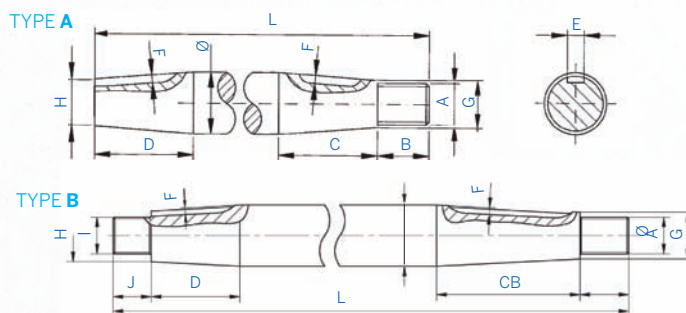
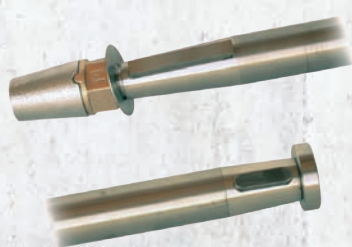
## PART NUMBERS AISI- 329

| L (mm)      | Ø19*       | Ø25            | Ø30          | Ø35          | Ø40          | Ø45          | Ø50          | Ø60          |
|-------------|------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>1200</b> | 403.19.120 | 403.25.120AM.1 | 403.30.120AM | 403.35.120AM |              |              |              |              |
| <b>1600</b> | 403.19.160 | 403.25.160AM.1 | 403.30.160AM | 403.35.160AM | 403.40.160AM | 403.45.160AM |              |              |
| <b>2000</b> | 403.19.200 | 403.25.200AM.1 | 403.30.200AM | 403.35.200AM | 403.40.200AM | 403.45.200AM | 403.50.200AM | 403.60.200AM |
| <b>2400</b> |            | 403.25.240AM.1 | 403.30.240AM | 403.35.240AM | 403.40.240AM | 403.45.240AM |              |              |
| <b>3000</b> |            | 403.25.300AM.1 | 403.30.300AM | 403.35.300AM | 403.40.300AM | 403.45.300AM | 403.50.300AM | 403.60.300AM |
| <b>4000</b> |            |                |              |              |              |              | 403.50.400AM | 403.60.400AM |

\* Only supplied in standard stainless steel.

All shafts can be supplied with clockwise thread by ordering 404.\_\_\_\_ instead of 403.\_\_\_\_, except for Ø19 shafts/

# double tapered stainless steel AISI 329 SHAFTS



Ground (h9 finish) standard or AISI-329 stainless steel shafts machined on both ends, with key, nut and safety washer. Taper 1:10 according to norm ISO-4566

Solé Diesel can supply the tapered shafts with a length in accordance with the customer's needs. (See form chapter)

AISI 329 steel offers mechanical properties that are superior to those of standard steel, allowing for a smaller-diameter shaft capable of withstanding greater stresses. This becomes an advantage for ships requiring greater engine power without sacrificing the existing sterntube and propeller strut, thus representing a major savings for the shipbuilder.

## DIMENSIONS

|      | TYPE B       |              |              | TYPE A        |             |
|------|--------------|--------------|--------------|---------------|-------------|
|      | Ø 35         | Ø 40         | Ø 45         | Ø 50          | Ø 60        |
| A    | M24x2        | M24x2        | M30x2        | M36x2         | M42x2       |
| B    | 32           | 32           | 40           | 40            | 50          |
| C    | 84           | 94           | 104          | 110           | 130         |
| D    | 58           | 58           | 58           | 58            | 65          |
| E    | 10           | 12           | 14           | 14            | 18          |
| F    | 4.5          | 4.5          | 5            | 5             | 6           |
| G    | Ø26.6        | Ø30.6        | Ø34.6        | Ø39           | Ø47         |
| H    | Ø29.2        | Ø34.2        | Ø39.2        | Ø44.2         | Ø53.5       |
| I    | M24x2        | M24x2        | M27x2        | ---           | ---         |
| J    | 25           | 25           | 27           | ---           | ---         |
| Cone | 1:10 (2°52') | 1:10 (2°52') | 1:10 (2°52') | 1:10 (2° 52') | 1:10(2°52') |

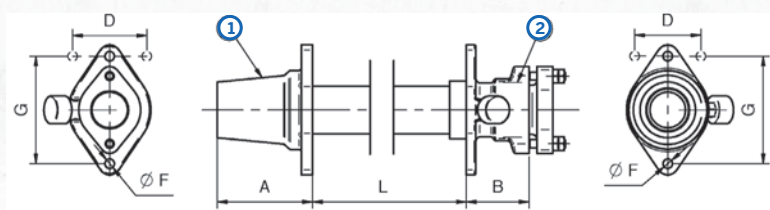
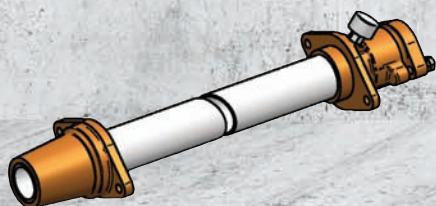
Dimensions in mm

## PART NUMBERS AISI - 329

| L (mm) | Ø 35         | Ø 40         | Ø 45         | Ø 50         | Ø 60         |
|--------|--------------|--------------|--------------|--------------|--------------|
| 2000   | 409.35.200AM | 409.40.200AM | 409.45.200AM | 409.50.200AM | 409.60.200AM |
| 3000   | 409.35.300AM | 409.40.300AM | 409.45.300AM | 409.50.300AM | 409.60.300AM |
| 4000   | 409.35.400AM | 409.40.400AM | 409.45.400AM | 409.50.400AM | 409.60.400AM |

All shafts can be supplied with clockwise thread by ordering 410.\_\_\_\_ instead of 409.\_\_\_\_

## rigid sterntubes



Rigid sterntubes available for diameters 25, 30, 35, 40, 45, 50, 60 and 70. Supplied against order.

Under request. Please contact Sales Department

## DIMENSIONS

|    | ① Rubber bearing |     |        | ② Stern support |           |     |
|----|------------------|-----|--------|-----------------|-----------|-----|
| Ø  | A                | B   | Ø Tubo | D               | F         | G   |
| 25 | 93               | 67  | Ø 40   | 25              | 4xØ9,5    | 78  |
| 30 | 120              | 83  | Ø 44   | ---             | 2 x Ø12   | 106 |
| 35 | 120              | 83  | Ø 48.3 | ---             | 2 x Ø12   | 106 |
| 45 | 120              | 79  | Ø 63   | ---             | 2 x Ø12   | 135 |
| 50 | 120              | 79  | Ø 76.1 | ---             | 2 x Ø12   | 135 |
| 60 | 225              | 118 | Ø 88.9 | 70              | 4 x Ø12,5 | 136 |
| 70 | 225              | 143 | Ø 88.9 | 70              | 4 x Ø12,5 | 136 |



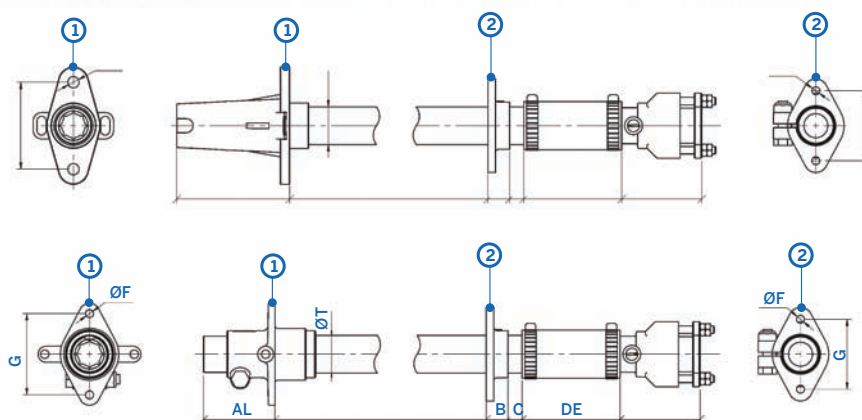
## complete sterntube assemblies

**TYPE A1**

Complete sterntube assemblée with rubber bearing type A at stern. Stuffing box with fix studs, packing rubber sleeve and stainless steel tube

**TYPE A2**

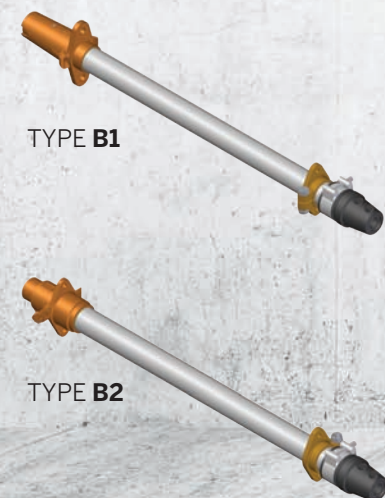
Complete sterntube assemblée with rubber bearing type B at stern. Stuffing box with fix studs, packing and stainless steel tube



## DIMENSIONS

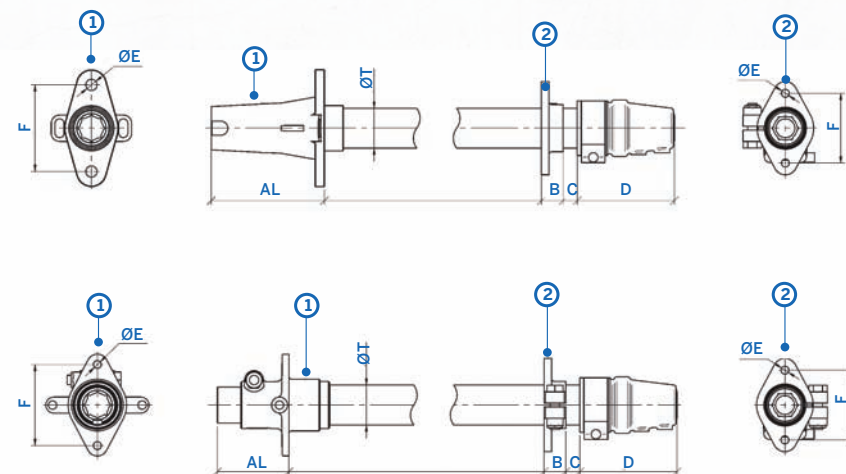
| Ø shaft | Type | ØT   | A   | B  | C  | D   | E    | ①              |               | ②        |     | Part nr.          |                   |                   |
|---------|------|------|-----|----|----|-----|------|----------------|---------------|----------|-----|-------------------|-------------------|-------------------|
|         |      |      |     |    |    |     |      | Rubber bearing | Stern support | L        |     | 500               | 1000              | 1500              |
| 25      | A1   | 40   | 120 | 23 | 15 | 104 | 85   | 12 (x2)        | 92            | 8,5 (x2) | 74  | <b>490.25.050</b> | <b>490.25.100</b> | <b>490.25.150</b> |
| 30      |      | 44,5 | 120 | 23 | 15 | 104 | 85   | 12 (x2)        | 98            | 8,5 (x2) | 78  | <b>490.30.050</b> | <b>490.30.100</b> | <b>490.30.150</b> |
| 35      |      | 48,3 | 160 | 23 | 15 | 100 | 87,5 | 12 (x2)        | 120           | 8,5 (x2) | 80  | <b>490.35.050</b> | <b>490.35.100</b> | <b>490.35.150</b> |
| 25      | A2   | 40   | 81  | 23 | 15 | 104 | 85   | 8,5 (x2)       | 86            | 8,5 (x2) | 74  | <b>491.25.050</b> | <b>491.25.100</b> | <b>491.25.150</b> |
| 30      |      | 44,5 | 70  | 23 | 15 | 104 | 85   | 8,5 (x2)       | 94            | 8,5 (x2) | 78  | <b>491.30.050</b> | <b>491.30.100</b> | <b>491.30.150</b> |
| 35      |      | 48,3 | 105 | 23 | 15 | 100 | 87,5 | 10,5 (x2)      | 98            | 8,5 (x2) | 80  | <b>491.35.050</b> | <b>491.35.100</b> | <b>491.35.150</b> |
| 40      |      | 60,3 | 115 | 60 | 15 | 100 | 96   | 8,5 (x4)       | 112           | 8,5 (x4) | 112 | <b>491.40.050</b> | <b>491.40.100</b> | <b>491.40.150</b> |
| 45      |      | 60,3 | 123 | 60 | 15 | 125 | 100  | 8,5 (x4)       | 112           | 8,5 (x4) | 112 | <b>491.45.050</b> | <b>491.45.100</b> | <b>491.45.150</b> |
| 50      |      | 76   | 136 | 75 | 15 | 105 | 100  | 9 (x4)         | 130           | 9 (x4)   | 130 | <b>491.50.050</b> | <b>491.50.100</b> | <b>491.50.150</b> |

ØT = Ø Tube. L = Tube length. Dimensions in mm



TYPE B1

TYPE B2



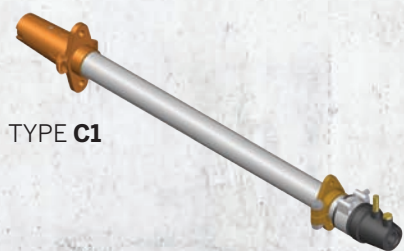
## DIMENSIONS

| DIMENSIONS |      |      |     |    |       |        | ①              | ②      |               | Part nr.   |            |            |            |
|------------|------|------|-----|----|-------|--------|----------------|--------|---------------|------------|------------|------------|------------|
|            |      |      |     |    |       |        | Rubber bearing |        | Stern support |            | L          |            |            |
| Ø shaft    | Type | ØT   | A   | B  | C     | D      | ØE             | G      | ØF            | G          | 500        | 1000       | 1500       |
| 25         | B1   | 42,4 | 120 | 23 | 15    | 103    | 12 (x2)        | 92     | 8,5 (x2)      | 74         | 492.25.050 | 492.25.100 | 492.25.150 |
| 30         |      | 48,3 | 120 | 23 | 15    | 113    | 12 (x2)        | 98     | 8,5 (x2)      | 80         | 492.30.050 | 492.30.100 | 492.30.150 |
| 35         |      | 53   | 160 | 22 | 15    | 120    | 12 (x2)        | 120    | 8,5 (x2)      | 86         | 492.35.050 | 492.35.100 | 492.35.150 |
|            |      |      |     |    |       |        |                |        |               |            |            |            |            |
| 25         | B2   | 42,4 | 81  | 23 | 15    | 103    | 8,5 (x2)       | 86     | 8,5 (x2)      | 74         | 493.25.050 | 493.25.100 | 493.25.150 |
| 30         |      | 48,3 | 70  | 23 | 15    | 113    | 8,5 (x2)       | 94     | 8,5 (x2)      | 80         | 493.30.050 | 493.30.100 | 493.30.150 |
| 35         |      | 53   | 105 | 22 | 15    | 120    | 10,5 (x2)      | 98     | 8,5 (x2)      | 86         | 493.35.050 | 493.35.100 | 493.35.150 |
| 40         |      | 60,3 | 115 | 60 | 15    | 121    | 8,5 (x4)       | 112    | 8,5 (x4)      | 112        | 493.40.050 | 493.40.100 | 493.40.150 |
| 45         |      | 63,5 | 123 | 60 | 15    | 121    | 8,5 (x4)       | 112    | 8,5 (x4)      | 112        | 493.45.050 | 493.45.100 | 493.45.150 |
| 50         | 70   | 136  | 75  | 15 | 129,5 | 9 (x4) | 130            | 9 (x4) | 130           | 493.50.050 | 493.50.100 | 493.50.150 |            |

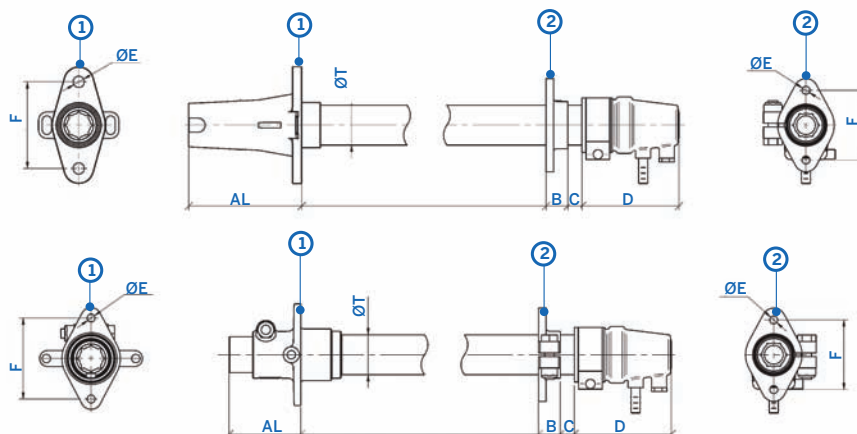
ØT = Ø Tube. L = Tube length. Dimensions in mm

## complete sterntube assemblies

TYPE C1



TYPE C2



## DIMENSIONS

| Ø shaft | Type | ØT   | A   | B  | C  | D     | 1              |     | 2             |     | Part nr.   |            |            |
|---------|------|------|-----|----|----|-------|----------------|-----|---------------|-----|------------|------------|------------|
|         |      |      |     |    |    |       | Rubber bearing |     | Stern support |     | L          |            |            |
|         |      |      |     |    |    |       | ØE             | G   | ØF            | G   | 500        | 1000       | 1500       |
| 25      | C1   | 42,4 | 120 | 23 | 15 | 103   | 12 (x2)        | 92  | 8,5 (x2)      | 74  | 494.25.050 | 494.25.100 | 494.25.150 |
| 30      |      | 48,3 | 120 | 23 | 15 | 113   | 12 (x2)        | 98  | 8,5 (x2)      | 80  | 494.30.050 | 494.30.100 | 494.30.150 |
| 35      |      | 53   | 160 | 22 | 15 | 120   | 12 (x2)        | 120 | 8,5 (x2)      | 86  | 494.35.050 | 494.35.100 | 494.35.150 |
| 25      | C2   | 42,4 | 81  | 23 | 15 | 103   | 8,5 (x2)       | 86  | 8,5 (x2)      | 74  | 495.25.050 | 495.25.100 | 495.25.150 |
| 30      |      | 48,3 | 70  | 23 | 15 | 113   | 8,5 (x2)       | 94  | 8,5 (x2)      | 80  | 495.30.050 | 495.30.100 | 495.30.150 |
| 35      |      | 53   | 105 | 22 | 15 | 120   | 10,5 (x2)      | 98  | 8,5 (x2)      | 86  | 495.35.050 | 495.35.100 | 495.35.150 |
| 40      |      | 60,3 | 115 | 60 | 15 | 121   | 8,5 (x4)       | 112 | 8,5 (x4)      | 112 | 495.40.050 | 495.40.100 | 495.40.150 |
| 45      |      | 63,5 | 123 | 60 | 15 | 121   | 8,5 (x4)       | 112 | 8,5 (x4)      | 112 | 495.45.050 | 495.45.100 | 495.45.150 |
| 50      |      | 70   | 136 | 75 | 15 | 129,5 | 9 (x4)         | 130 | 9 (x4)        | 130 | 495.50.050 | 495.50.100 | 495.50.150 |

ØT = Ø Tube. L = Tube length. Dimensions in mm

## TYPE C1

Complete sterntube assembly with rubber bearing type A at stern. Rubber stuffing box with additional cooling system and stainless steel tube

## TYPE C2

Complete sterntube assembly with rubber bearing type B at stern. Rubber stuffing box with additional cooling system and stainless steel tube



# rubber stuffing box (metric)



## TYPE A



Metric stuffing box kit. Recommended for settings BELOW the waterline. The kit includes the stuffing box, the protective sleeve, grease and the instruction manual.

### DIMENSIONS AND PART NUMBERS

| Description              | Ø Shaft | Ø Tube | Part number       |
|--------------------------|---------|--------|-------------------|
| Rubber Stuffing Box 25 Ø | 25      | 43     | <b>400.25.130</b> |
| Rubber Stuffing Box 30 Ø | 30      | 49     | <b>400.30.130</b> |
| Rubber Stuffing Box 35 Ø | 35      | 55     | <b>400.35.130</b> |
| Rubber Stuffing Box 40 Ø | 40      | 60     | <b>400.40.130</b> |
| Rubber Stuffing Box 45 Ø | 45      | 65     | <b>400.45.130</b> |
| Rubber Stuffing Box 50 Ø | 50      | 70     | <b>400.50.130</b> |

Dimensions in mm

## TYPE A Additional cooling system with barbed pipe



Metric stuffing box kit with additional cooling system. Suitable for settings ABOVE and BELOW the waterline. The kit includes the stuffing box, the protective sleeve, grease, instruction manual and the barbed pipe and screw for water-cooling. Water hose not included.

### DIMENSIONS AND PART NUMBERS

| Description              | Ø Shaft | Ø Tube | Part number       |
|--------------------------|---------|--------|-------------------|
| Rubber Stuffing Box 25 Ø | 25      | 43     | <b>400.25.131</b> |
| Rubber Stuffing Box 30 Ø | 30      | 49     | <b>400.30.131</b> |
| Rubber Stuffing Box 35 Ø | 35      | 55     | <b>400.35.131</b> |
| Rubber Stuffing Box 40 Ø | 40      | 60     | <b>400.40.131</b> |
| Rubber Stuffing Box 45 Ø | 45      | 65     | <b>400.45.131</b> |
| Rubber Stuffing Box 50 Ø | 50      | 70     | <b>400.50.131</b> |

Dimensions in mm



Check manual before installation

For further information see operator/installation manual in [www.solediesel.com](http://www.solediesel.com)

# rubber stuffing box (inches)

## TYPE A



Stuffing box kit in inches. Recommended for settings BELOW the waterline. The kit includes the stuffing box, the protective sleeve, grease and the instruction manual.

### DIMENSIONS AND PART NUMBERS

| Description                | Ø Shaft       | Ø Tube | Part number       |
|----------------------------|---------------|--------|-------------------|
| Rubber Stuffing Box 1"     | 1" (25,4)     | 43     | <b>400.26.130</b> |
| Rubber Stuffing Box 1 1/4" | 1 1/4 (31,75) | 49     | <b>400.32.130</b> |
| Rubber Stuffing Box 1 1/2" | 1 1/2 (38,10) | 60     | <b>400.38.130</b> |
| Rubber Stuffing Box 1 3/4" | 1 3/4 (44,45) | 65     | <b>400.44.130</b> |
| Rubber Stuffing Box 2"     | 2" (50,80)    | 70     | <b>400.51.130</b> |

Dimensions in mm

## TYPE A Additional cooling system with barbed pipe



Stuffing box kit in inches with additional cooling system. Suitable for settings ABOVE and BELOW the waterline. The kit includes the stuffing box, the protective sleeve, grease, instruction manual and the barbed pipe and screw for water-cooling. Water hose not included.

### DIMENSIONS AND PART NUMBERS

| Description                | Ø Shaft       | Ø Tube | Part number       |
|----------------------------|---------------|--------|-------------------|
| Rubber Stuffing Box 1"     | 1" (25,4)     | 43     | <b>400.26.131</b> |
| Rubber Stuffing Box 1 1/4" | 1 1/4 (31,75) | 49     | <b>400.32.131</b> |
| Rubber Stuffing Box 1 1/2" | 1 1/2 (38,10) | 60     | <b>400.38.131</b> |
| Rubber Stuffing Box 1 3/4" | 1 3/4 (44,45) | 65     | <b>400.44.131</b> |
| Rubber Stuffing Box 2"     | 2" (50,80)    | 70     | <b>400.51.131</b> |

Dimensions in mm



Check manual before installation

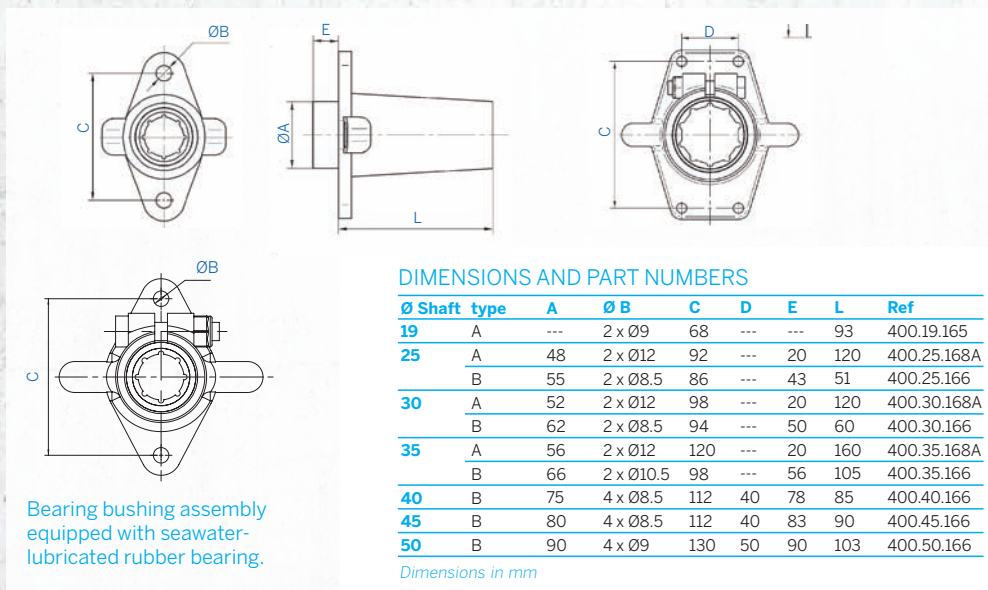
For further information see operator/installation manual in [www.solediesel.com](http://www.solediesel.com)

## bearing bushing assembly

## TYPE A



## TYPE B



## floating stuffing box

## WATER-COOLED

STUFFING BOX  
WITH FIX STUDSTHREADED  
STUFFING BOX

SPECIAL TOOL



Bronze water-cooled stuffing box, with packing, rubber sleeve, and stainless steel clamps. Additional direct cooling allowed by this system.

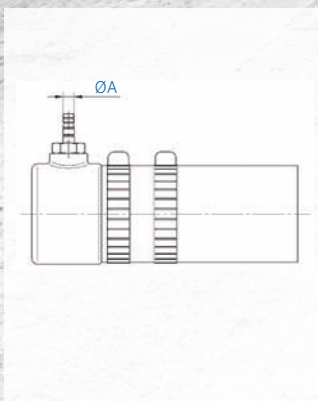
| Ø  | Part number |
|----|-------------|
| 19 | 400.19.125  |
| 25 | 400.25.125A |
| 30 | 400.30.125A |
| 35 | 400.35.125A |

Dimensions in mm

| Ø  | Part number |
|----|-------------|
| 40 | 400.40.125  |
| 45 | 400.45.125  |
| 50 | 400.50.125  |

| Ø  | Part number |
|----|-------------|
| 40 | 400.40.020  |
| 45 | 400.45.020  |
| 50 | 400.50.020  |

## OIL BATH COOLED



Sealed bronze oil-cooled stuffing box, self lubricated bearing, rubber sleeve, stainless steel clamps and plastic tank. (provided separately)

## DIMENSIONS AND PART NUMBERS

| Ø  | Part number        |
|----|--------------------|
| 25 | 400.25.126 ØA = Ø6 |
| 30 | 400.30.126 ØA = Ø6 |
| 35 | 400.35.126 ØA = Ø6 |

Dimensions in mm



SAE 15W40 OIL

Reference  
400.25.037



## packing



Braided packing to achieve sterntube watertightness. Manufactured with acrylic fibre threads and lubricated with 40% Teflon. Supplied by the metre.

## DIMENSIONS AND PART NUMBERS

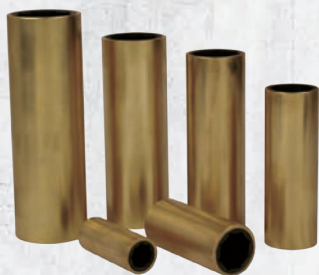
| A x B   | Ø Shaft            | Ref              |
|---------|--------------------|------------------|
| 6 x 6   | Ø19 - 25 - 35      | <b>M95200060</b> |
| 8 x 8   | Ø30 - 40 - 45 - 50 | <b>M95200080</b> |
| 10 x 10 | Ø60                | <b>M95200100</b> |

## TECHNICAL SPECIFICATION

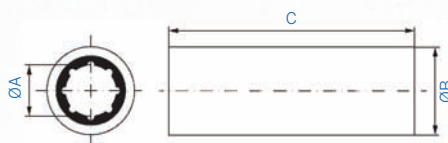
|                    |                        |
|--------------------|------------------------|
| <b>Pressure</b>    | 100 kg/cm <sup>2</sup> |
| <b>Temperature</b> | 250 °C                 |
| <b>Speed</b>       | 15 m/s                 |
| <b>pH</b>          | 1 - 13                 |

Dimensions in mm

## rubber bearings



Neoprene-based bearings with brass cover. Water-lubricated.



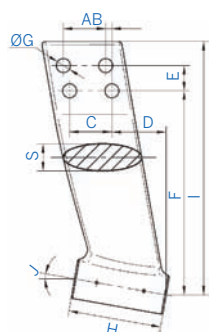
## DIMENSIONS AND PART NUMBERS

| ØA        | B (in) | B (mm) | C (in) | C (mm) | Ref               |
|-----------|--------|--------|--------|--------|-------------------|
| <b>19</b> | 1 1/4" | 31.75  | 3"     | 76.2   | <b>400.19.070</b> |
| <b>25</b> | 1 1/2" | 38.1   | 4"     | 100.0  | <b>400.25.070</b> |
| <b>30</b> | 1 3/4" | 44.45  | 4"     | 100.0  | <b>400.30.070</b> |
| <b>35</b> | 1 7/8" | 47.62  | 5 1/2" | 139.7  | <b>400.35.070</b> |
| <b>40</b> | 2 1/8" | 54     | 6 1/2" | 165.0  | <b>400.40.070</b> |
| <b>45</b> | 2 3/8" | 60.3   | 7"     | 177.8  | <b>400.45.070</b> |
| <b>50</b> | 2 5/8" | 66.7   | 8"     | 203.2  | <b>400.50.070</b> |
| <b>60</b> | 3 1/4" | 82.5   | 7.9"   | 200    | <b>400.60.070</b> |

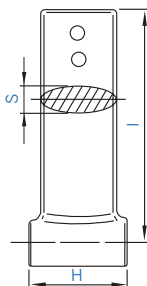
Dimensions in mm

## struts

## TYPE B



## TYPE A



## DIMENSIONS AND PART NUMBERS

| ØA        | Type | A   | B   | C   | D   | E   | F   | G   | H   | I   | J   | S  | Ref        |
|-----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|------------|
| <b>19</b> | A    | --- | --- | --- | --- | --- | --- | --- | 76  | 339 | --- | 18 | 400.19.580 |
| <b>25</b> | B    | --- | --- | --- | --- | --- | --- | --- | 102 | 370 | --- | 22 | 400.25.581 |
| <b>30</b> | B    | 57  | 35  | 57  | 28  | 42  | 323 | Ø18 | 115 | 400 | 10° | 28 | 400.30.581 |
| <b>35</b> | B    | 65  | 33  | 65  | 23  | 45  | 360 | Ø25 | 142 | 450 | 10° | 30 | 400.35.581 |
| <b>40</b> | B    | 75  | 11  | 75  | 96  | 45  | 362 | Ø25 | 165 | 450 | 10° | 32 | 400.40.581 |
| <b>45</b> | B    | 80  | --- | 80  | 92  | 50  | 460 | Ø25 | 182 | 565 | 10° | 36 | 400.45.581 |
| <b>50</b> | B    | 90  | --- | 90  | 57  | 60  | 460 | Ø25 | 205 | 565 | 10° | 39 | 400.50.581 |

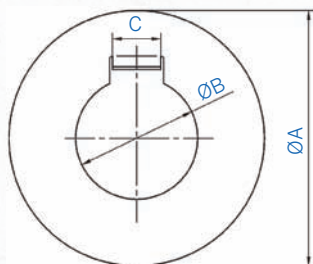
Dimensions in mm

Bronze struts. Includes the self-lubricating rubber bearing.

# propeller nut fastener



Made of standard-grade stainless steel.  
This part prevents the propeller nut from  
coming unthreaded.

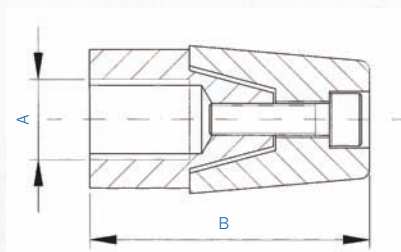


## DIMENSIONS AND PART NUMBERS

| ØShafts | Ø A | Ø B  | B   | Ref          |
|---------|-----|------|-----|--------------|
| 19      | 32  | 14.5 | 5   | 400.19.090   |
| 25      | 40  | 17   | 5   | 400.25.090   |
| 25      | 40  | 17   | 7   | 400.25.090.1 |
| 30      | 48  | 21   | 7.5 | 400.30.090   |
| 35      | 60  | 27   | 9.5 | 400.35.090   |
| 40      | 50  | 27   | 9.5 | 400.35.090   |
| 45      | 66  | 31   | 13  | 400.45.090M  |
| 50      | 66  | 37   | 13  | 400.50.090M  |
| 60      | 90  | 43   | 17  | 400.60.090   |

Dimensions in mm

# zinc anode nuts



## DIMENSIONS AND PART NUMBERS

|         |         | Anti-clockwise |             | Clockwise   | SCREW NUT |         |            |             |
|---------|---------|----------------|-------------|-------------|-----------|---------|------------|-------------|
| ØShafts | A       | B              | thread 1    | thread 2    | ØShafts   | A       | FASTENER   | Ref ANODE   |
| 25      | M16x1.5 | 58             | 400.25.193M | 400.25.194M | 25        | M16x1.5 | 541.03.157 | 400.25.194M |
| 30      | M20x1.5 | 69             | 400.30.193M | 400.30.194M | 30        | M20x1.5 | 541.03.258 | 400.30.194M |
| 35      | M24x2   | 85             | 400.35.193M | 400.35.194M | 35        | M24x2   | 541.03.258 | 400.35.194M |
| 40      | M24x2   | 85             | 400.40.193M | 400.35.194M | 40        | M24x2   | 541.03.258 | 400.35.194M |
| 45      | M30x2   | 110            | 400.45.193M | 400.45.194M | 45        | M30x2   | 541.03.310 | 400.45.194M |
| 50      | M36x3   | 115            | 400.50.193M | 400.50.194M | 50        | M36x3   | 541.03.310 | 400.50.194M |
| 60      | M42x3   | 147            | 400.60.193M | 400.60.194M | 60        | M42x3   | 541.03.310 | 400.60.194M |

Dimensions in mm

1 Shaft-mounted for clockwise-turning propeller.

2 Shaft-mounted for anticlockwise-turning propeller





6

propellers.

Propeller calculation form  
available in page 106





# propellers for technodrive SPROP60



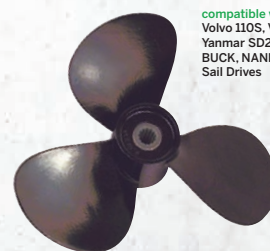
compatible with:  
Volvo 110S, Volvo 120S,  
Yanmar SD20/31/40-4T,  
BUCK, NANNI y SONIC  
Sail Drives



compatible with:  
Volvo 110S, Volvo 120S,  
Yanmar SD20/31/40-4T,  
BUCK, NANNI y SONIC  
Sail Drives



compatible with:  
Volvo 110S, Volvo 120S,  
Yanmar SD20/31/40-4T,  
BUCK, NANNI y SONIC  
Sail Drives



## 2 BLADES FOLDING PROPELLERS

Two-blades folding propellers made of nickelaluminium bronze. Statically and dynamically balanced. Reduce drag significantly when sailing. Only available for the TECHNODRIVE striated sail-drive shaft.

## 2 BLADES FIXED PROPELLERS

Aluminium two-blades fixed pitch propellers, statically and dynamically balanced. Only available for TECHNODRIVE sail-drive striated shafts.

## 3 BLADES FIXED PROPELLERS

Aluminium three-blades fixed pitch propellers, statically and dynamically balanced. Only available for sail-drive striated shaft

### DIMENSIONS AND PART NUMBERS

| Ø  | Pitch | Surface % | Part number       | LH |
|----|-------|-----------|-------------------|----|
| 14 | 8     | 25        | <b>41.10.1408</b> |    |
| 15 | 10    | 25        | <b>41.10.1410</b> |    |
| 18 | 10    | 25        | <b>41.10.1810</b> |    |
| 18 | 11    | 25        | <b>41.10.1811</b> |    |
| 18 | 12    | 25        | <b>41.10.1812</b> |    |
| 18 | 13    | 25        | <b>41.10.1813</b> |    |
| 18 | 14    | 25        | <b>41.10.1814</b> |    |

Dimensions in mm

### DIMENSIONS AND PART NUMBERS

| Ø  | Pitch | Surface % | Part number       | LH |
|----|-------|-----------|-------------------|----|
| 14 | 8     | 25        | <b>41.11.1408</b> |    |
| 14 | 9     | 25        | <b>41.11.1409</b> |    |
| 16 | 9     | 25        | <b>41.11.1609</b> |    |

Dimensions in mm

### DIMENSIONS AND PART NUMBERS

| Ø  | Pitch | Surface % | Part number | LH |
|----|-------|-----------|-------------|----|
| 14 | 9     | 50        |             |    |
| 14 | 10    | 50        |             |    |
| 16 | 10    | 50        |             |    |
| 16 | 11    | 50        |             |    |
| 17 | 11    | 50        |             |    |
| 17 | 12    | 50        |             |    |
| 17 | 13    | 50        |             |    |
| 17 | 14    | 50        |             |    |

Dimensions in mm

## for SELVA sail-drive



## 2 BLADES FOLDING PROPELLERS

Two-blades folding propellers made of nickel-aluminium bronze. Statically and dynamically balanced. Reduce drag while sail sailing. Only available for the SELVA sail-drive striated shaft.

## 3 BLADES FIXED PROPELLERS

Aluminium three-blades fixed pitch propellers, statically and dynamically balanced. Only available for SELVA sail-drive striated shafts.

## for shaft drive



## 2 BLADE FIXED PROPELLER FOR SHAFT DRIVE

2 Blade fixed pitch propellers for shaft drive made on manganese bronze, statically and dynamically balanced, and tapered at 1:10. Diameter and pitch in inches. These propellers have been specially designed to fulfil the requirements from those who search a less resistance sail navigation.

### DIMENSIONS AND PART NUMBERS

| Ø  | Pitch | Surface % | Part number       | RH |
|----|-------|-----------|-------------------|----|
| 13 | 7     | 25        | <b>42.00.1307</b> |    |
| 15 | 7     | 25        | <b>42.00.1507</b> |    |
| 15 | 8     | 25        | <b>42.00.1508</b> |    |
| 15 | 10    | 25        | <b>42.00.1510</b> |    |
| 16 | 9     | 25        | <b>42.00.1609</b> |    |

Dimensions in mm

### DIMENSIONS AND PART NUMBERS

| Ø  | Pitch | Surface % | Part number       | RH |
|----|-------|-----------|-------------------|----|
| 14 | 8     | 50        | <b>44.00.1408</b> |    |
| 14 | 10    | 50        | <b>44.00.1410</b> |    |

Dimensions in mm

### DIMENSIONS AND PART NUMBERS

| Øshaft | Ø    | Pitch | Surface % | Part number       | Rh |
|--------|------|-------|-----------|-------------------|----|
| 19     | 13   | 8,5   | 30        | <b>42.11.3322</b> |    |
| 19     | 14,5 | 8,5   | 30        | <b>42.11.3721</b> |    |
| 25     | 13   | 8,5   | 30        | <b>42.21.3322</b> |    |
| 25     | 14,5 | 8,5   | 30        | <b>42.21.3721</b> |    |
| 25     | 15,5 | 13,5  | 30        | <b>42.21.3934</b> |    |
| 25     | 16   | 14,5  | 30        | <b>42.21.4037</b> |    |
| 25     | 15   | 9     | 45        | <b>42.24.3823</b> |    |
| 25     | 15   | 10,5  | 45        | <b>42.24.3826</b> |    |
| 25     | 16   | 10    | 45        | <b>42.24.4126</b> |    |
| 30     | 16   | 14,5  | 30        | <b>42.31.4037</b> |    |
| 30     | 18   | 11,5  | 45        | <b>42.34.4530</b> |    |

Dimensions in mm





## PROPELLERS FOR PLANING OR PROFESSIONAL CRAFT

Designed specifically for medium to fast boats (15-35 knots) or work boats that demand high performance and have restrictions on diameter while requiring a higher pitch. Made of high tensile manganese bronze. High precision static and dynamic balance. High skew blades reduce noticeably noise and vibrations induced in the boat's rudder and hull. To achieve best performance, an ogival airfoil mixed blade profile has been designed to minimise cavitation whilst providing smooth and effective thrust. Propellers made with antisinging edge. Diameter and pitch in inches.

### DIMENSIONS AND PART NUMBERS

| shaft | Ø  | Pitch | Surface % | Part number |            |
|-------|----|-------|-----------|-------------|------------|
|       |    |       |           | RH          | LH         |
| 25    | 16 | 16    |           | 46204141RC  |            |
|       | 16 | 14    | 75        | 46304136RC  |            |
|       | 16 | 15    | 75        | 46304138RC  |            |
|       | 16 | 16    | 75        | 46304141RC  | 45304141RC |
|       | 16 | 17    | 75        | 46304143RC  |            |
|       | 16 | 18    | 75        | 46304146RC  | 45304146RC |
|       | 16 | 19    | 75        | 46304148RC  | 45304148RC |
|       | 17 | 19    | 75        | 46304348RC  | 45304348RC |
|       | 17 | 20    | 75        | 46304351RC  |            |
|       | 17 | 21    | 75        | 46304648RC  |            |
| 30    | 18 | 19    | 75        | 46304648RC  |            |
|       | 18 | 22    | 75        | 46304353RC  | 45304353RC |
|       | 18 | 22    | 75        | 46304656RC  | 45304656RC |
|       | 16 | 14    | 75        | 46404136RC  |            |
|       | 16 | 15    | 75        | 46404138RC  |            |
|       | 16 | 16    | 75        | 46404141RC  | 45404141RC |
|       | 16 | 17    | 75        | 46404143RC  |            |
|       | 16 | 18    | 75        | 46404146RC  | 45404146RC |
|       | 16 | 19    | 75        | 46404148RC  | 45404148RC |
|       | 17 | 19    | 75        | 46404348RC  | 45404348RC |
| 35    | 17 | 20    | 75        | 46404351RC  |            |
|       | 17 | 21    | 75        | 46404353RC  | 45404353RC |
|       | 18 | 18    | 75        | 46404646RC  |            |
|       | 18 | 19    | 75        | 46404648RC  |            |
|       | 18 | 20    | 75        | 46404651RC  | 45404651RC |
|       | 18 | 21    | 75        | 46404653RC  |            |
|       | 18 | 22    | 75        | 46404656RC  | 45404656RC |
|       | 18 | 23    | 75        | 46404658RC  |            |
|       | 18 | 25    | 75        | 46404663RC  |            |

| shaft | Ø  | Pitch | Surface % | Part number |            |
|-------|----|-------|-----------|-------------|------------|
|       |    |       |           | RH          | LH         |
| 40    | 16 | 19    | 75        | 46504148RC  |            |
|       | 17 | 21    | 75        |             | 45504353RC |
|       | 18 | 18    | 75        | 46504646RC  |            |
|       | 18 | 19    | 75        | 46504648RC  |            |
|       | 18 | 20    | 75        | 46504651RC  | 45504651RC |
|       | 18 | 21    | 75        | 46504653RC  |            |
|       | 18 | 22    | 75        | 46504656RC  | 45504656RC |
|       | 18 | 23    | 75        | 46504658RC  | 45504658RC |
|       | 18 | 25    | 75        | 46504663RC  |            |
|       | 19 | 25    | 75        | 46504863RC  | 45504863RC |
| 45    | 21 | 23    | 75        | 46505358RC  |            |
|       | 21 | 25    | 75        | 46505363RC  |            |
|       | 18 | 18    | 75        | 46604646RC  |            |
|       | 18 | 19    | 75        | 46604648RC  |            |
|       | 18 | 20    | 75        | 46604651RC  | 45604651RC |
|       | 18 | 21    | 75        | 46604653RC  |            |
|       | 18 | 22    | 75        | 46604656RC  |            |
|       | 18 | 23    | 75        | 46604656RC  | 45604658RC |
|       | 19 | 25    | 75        | 46604658RC  |            |
|       | 21 | 23    | 75        | 46604863RC  |            |
| 50    | 21 | 25    | 75        | 46604863RC  |            |
|       | 25 | 20    | 75        | 46605358RC  | 45706351RC |
| 60    | 25 | 20    | 75        | 46605363RC  | 45906351RC |

Dimensions in mm

## 3 AND 4 BLADES PROPELLERS

3- and 4-blades manganese bronze propellers, statically and dynamically balanced, 1:10 tapered (except propellers Ø19, 3°30'). Diameter and pitch in inches.



### 3 BLADES



### 4 BLADES



| Shaft   | Diameter (") | Pitch (") | Surface % | Part number | Part number | Diameter (") | Pitch (") | Surface % | Part number | Part number |
|---------|--------------|-----------|-----------|-------------|-------------|--------------|-----------|-----------|-------------|-------------|
| Ø 19 mm | 9            | 8         | 51        | 44.15.2320  |             | 9            | 8         |           |             |             |
|         | 10           | 11        | 51        | 44.15.2628  |             | 10           | 11        |           |             |             |
|         | 12           | 7         | 51        | 44.15.3118  |             | 12           | 7         |           |             |             |
|         | 12           | 8         | 51        | 44.15.3120  |             | 12           | 8         |           |             |             |
|         | 12           | 9         | 51        | 44.15.3123  |             | 12           | 9         |           |             |             |
|         | 12           | 10        | 51        | 44.15.3125  |             | 12           | 10        |           |             |             |
|         | 12           | 10.5      | 55        |             | 43.16.3126  | 12           | 10.5      |           |             |             |
|         | 13           | 8         | 51        | 44.15.3320  |             | 13           | 8         |           |             |             |
|         | 13           | 9         | 51        | 44.15.3323  |             | 13           | 9         |           |             |             |
|         | 13           | 10        | 55        | 44.16.3325  |             | 13           | 10        |           |             |             |
|         | 13           | 11        |           |             |             | 13           | 11        | 72        | 46.19.3328  | 46.19.3328  |
|         | 14           | 9         | 51        | 44.15.3623  |             | 14           | 9         |           |             |             |
|         | 14           | 10        | 51        | 44.15.3626  |             | 14           | 10        |           |             |             |
|         | 15           | 10        | 55        |             | 43.16.3826  | 15           | 10        |           |             |             |

## 3 BLADES



## 4 BLADES



| Shaft         | Diameter (") | Pitch (") | Surface % | Part number | Part number |
|---------------|--------------|-----------|-----------|-------------|-------------|
| Ø<br>22<br>mm | 9            | 8         | 51        | 44.205.2320 | 43.206.3126 |
|               | 10           | 11        | 51        | 44.205.2628 |             |
|               | 12           | 7         | 51        | 44.205.3118 |             |
|               | 12           | 8         | 51        | 44.205.3120 |             |
|               | 12           | 9         | 51        | 44.205.3123 |             |
|               | 12           | 10        | 51        | 44.205.3125 |             |
|               | 12           | 10.5      | 55        |             | 43.206.3826 |
|               | 13           | 7         | 51        | 44.205.3318 |             |
|               | 13           | 8         | 51        | 44.205.3320 | 43.206.3831 |
|               | 13           | 9         | 51        | 44.205.3323 | 43.206.3833 |
|               | 13           | 10        | 55        | 44.206.3325 |             |
|               | 13           | 11        | 55        | 44.206.3328 |             |
|               | 13           | 12        | 51        |             |             |
|               | 14           | 8         | 51        | 44.205.3620 |             |
|               | 14           | 9         | 51        | 44.205.3623 |             |
|               | 14           | 10        | 51        | 44.205.3626 |             |
|               | 14           | 11        | 55        | 44.205.3628 |             |
|               | 14           | 13        | 55        |             |             |
|               | 14           | 14        | 55        |             |             |
|               | 14           | 16        | 55        |             |             |
|               | 15           | 7         | 55        | 44.206.3818 |             |
|               | 15           | 9         | 55        | 44.206.3823 |             |
|               | 15           | 10        | 55        | 44.206.3826 | 43.206.4128 |
|               | 15           | 11        | 55        | 44.206.3828 |             |
|               | 15           | 12        | 55        | 44.206.3831 | 43.206.4131 |
|               | 15           | 13        | 55        | 44.206.3833 | 43.206.4133 |
|               | 15           | 14        | 55        | 44.206.3836 | 43.206.4136 |
|               | 16           | 10        | 55        | 44.206.4126 | 43.206.4138 |
|               | 16           | 11        | 55        | 44.206.4128 |             |
|               | 16           | 12        | 55        | 44.206.4131 |             |
|               | 16           | 13        | 55        | 44.206.4133 |             |
|               | 16           | 14        | 55        | 44.206.4136 |             |
|               | 16           | 15        | 55        | 44.206.4138 |             |
|               | 16           | 16        | 55        | 44.206.4141 |             |
|               | 16           | 17        | 75        | 44.206.4143 |             |
|               | 17           | 11        | 55        | 44.206.4328 |             |
|               | 17           | 12        |           | 44.206.4331 | 43.206.4331 |
|               | 17           | 13        |           | 44.206.4333 |             |
|               | 17           | 14        |           |             | 43.206.4336 |
|               | 18           | 14        |           | 44.206.4636 |             |

| Diameter (") | Pitch (") | Surface % | Part number | Part number |
|--------------|-----------|-----------|-------------|-------------|
| 9            | 8         |           |             |             |
| 10           | 11        |           |             |             |
| 12           | 7         |           |             |             |
| 12           | 8         |           |             |             |
| 12           | 9         |           |             |             |
| 12           | 10        |           |             |             |
| 12           | 10.5      |           |             |             |
| 13           | 7         |           |             |             |
| 13           | 8         |           |             |             |
| 13           | 9         |           |             |             |
| 13           | 10        |           |             |             |
| 13           | 11        | 72        | 46.209.3328 |             |
| 13           | 12        | 72        | 46.209.3331 |             |
| 14           | 8         |           |             |             |
| 14           | 9         | 69        | 46.208.3624 |             |
| 14           | 10        | 69        | 46.208.3626 |             |
| 14           | 11        |           |             |             |
| 14           | 13        | 72        | 46.209.3633 |             |
| 14           | 14        | 72        | 46.209.3636 |             |
| 14           | 16        | 72        | 46.209.3641 |             |
| 15           | 7         |           |             |             |
| 15           | 9         |           |             |             |
| 15           | 10        |           |             |             |
| 15           | 11        |           |             |             |
| 15           | 12        |           |             |             |
| 15           | 13        |           |             |             |
| 15           | 14        |           |             |             |
| 16           | 10        |           |             |             |
| 16           | 11        | 72        | 46.209.4128 |             |
| 16           | 12        | 72        | 46.209.4131 |             |
| 16           | 13        | 72        | 46.209.4133 | 45.209.4133 |
| 16           | 14        | 72        | 46.209.4136 |             |
| 16           | 15        | 72        | 46.209.4138 |             |
| 16           | 16        | 72        | 46.209.4141 | 45.209.4141 |
| 16           | 17        | 72        | 46.209.4143 |             |
| 17           | 11        |           |             |             |
| 17           | 12        |           |             |             |
| 17           | 13        | 72        | 46.209.4333 |             |
| 17           | 14        |           |             |             |
| 18           | 14        |           |             |             |



## 3 BLADES



## 4 BLADES



| Shaft         | Diameter (") | Pitch (") | Surface % | Part number | Part number | Diameter (") | Pitch (") | Surface % | Part number  | Part number  |
|---------------|--------------|-----------|-----------|-------------|-------------|--------------|-----------|-----------|--------------|--------------|
| Ø<br>25<br>mm | 9            | 8         | 51        | 44.25.2320  |             | 9            | 8         |           |              |              |
|               | 10           | 11        | 51        | 44.25.2628  |             | 10           | 11        |           |              |              |
|               | 12           | 7         | 51        | 44.25.3118  |             | 12           | 7         |           |              |              |
|               | 12           | 8         | 51        | 44.25.3120  |             | 12           | 8         |           |              |              |
|               | 12           | 9         | 51        | 44.25.3123  |             | 12           | 9         |           |              |              |
|               | 12           | 10        | 51        | 44.25.3125  |             | 12           | 10        |           |              |              |
|               | 12           | 10.5      | 55        |             | 43.26.3126  | 12           | 10.5      |           |              |              |
|               | 13           | 7         | 55        | 44.25.3318  |             | 13           | 7         |           |              |              |
|               | 13           | 8         | 51        | 44.25.3320  |             | 13           | 8         |           |              |              |
|               | 13           | 9         | 51        | 44.25.3323  |             | 13           | 9         |           |              |              |
|               | 13           | 10        | 55        | 44.26.3325  |             | 13           | 10        |           |              |              |
|               | 13           | 11        | 55        | 44.26.3328  |             | 13           | 11        | 72        | 46.29.3328.1 |              |
|               | 13           | 12        |           |             |             | 13           | 12        | 72        | 46.29.3331.1 |              |
|               | 14           | 8         | 51        | 44.25.3620  |             | 14           | 8         |           |              |              |
|               | 14           | 9         | 51        | 44.25.3623  |             | 14           | 9         | 69        | 46.28.3624.1 |              |
|               | 14           | 10        | 51        | 44.25.3626  |             | 14           | 10        | 69        | 46.28.3626.1 |              |
|               | 14           | 11        | 51        | 44.25.3628  |             | 14           | 11        |           |              |              |
|               | 14           | 13        |           |             |             | 14           | 13        | 72        | 46.29.3633.1 |              |
|               | 14           | 14        |           |             |             | 14           | 14        | 73        | 46.29.3636.1 |              |
|               | 14           | 16        |           |             |             | 14           | 16        | 72        | 46.29.3641.1 |              |
|               | 15           | 7         | 55        | 44.26.3818  |             | 15           | 7         |           |              |              |
|               | 15           | 9         | 55        | 44.26.3823  |             | 15           | 9         |           |              |              |
|               | 15           | 10        | 55        | 44.26.3826  | 43.26.3826  | 15           | 10        |           |              |              |
|               | 15           | 11        | 55        | 44.26.3828  |             | 15           | 11        |           |              |              |
|               | 15           | 12        | 55        | 44.26.3831  | 43.26.3831  | 15           | 12        |           |              |              |
|               | 15           | 13        | 55        | 44.26.3833  | 43.26.3833  | 15           | 13        |           |              |              |
|               | 15           | 14        | 55        | 44.26.3836  |             | 15           | 14        |           |              |              |
|               | 16           | 10        | 55        | 44.26.4126  |             | 16           | 10        |           |              |              |
|               | 16           | 11        | 55        | 44.26.4128  | 43.26.4128  | 16           | 11        | 72        | 46.29.4128.1 |              |
|               | 16           | 12        | 55        | 44.26.4131  | 43.26.4131  | 16           | 12        | 72        | 46.29.4131.1 |              |
|               | 16           | 13        | 55        | 44.26.4133  | 43.26.4133  | 16           | 13        | 72        | 46.29.4133.1 | 45.29.4133.1 |
|               | 16           | 14        | 55        | 44.26.4136  | 43.26.4136  | 16           | 14        | 72        | 46.29.4136.1 |              |
|               | 16           | 15        | 55        | 44.26.4138  | 43.26.4138  | 16           | 15        | 72        | 46.29.4138.1 |              |
|               | 16           | 16        | 55        | 44.26.4141  |             | 16           | 16        | 72        | 46.29.4141.1 | 45.29.4141.1 |
|               | 16           | 17        | 55        | 44.26.4143  |             | 16           | 17        | 72        | 46.29.4143.1 |              |
|               | 17           | 11        | 55        | 44.26.4328  |             | 17           | 11        |           |              |              |
|               | 17           | 12        | 55        | 44.26.4331  | 43.26.4331  | 17           | 12        |           |              |              |
|               | 17           | 13        | 55        | 44.26.4333  |             | 17           | 13        | 72        | 46.29.4333.1 |              |
|               | 17           | 14        | 55        |             | 43.26.4336  | 17           | 14        |           |              |              |
|               | 18           | 14        | 55        | 44.26.4636  |             | 18           | 14        |           |              |              |

## 3 BLADES



## 4 BLADES



| Shaft         | Diameter (") | Pitch (") | Surface % | Part number | Part number |
|---------------|--------------|-----------|-----------|-------------|-------------|
| Ø<br>30<br>mm | 14           | 9         | 51        | 44.35.3623  |             |
|               | 14           | 10        | 51        | 44.35.3626  |             |
|               | 14           | 13        |           |             |             |
|               | 14           | 14        |           |             |             |
|               | 14           | 16        |           |             |             |
|               | 15           | 9         | 55        | 44.36.3823  |             |
|               | 15           | 10        | 55        | 44.36.3826  | 43.36.3826  |
|               | 15           | 11        | 55        | 44.36.3828  | 43.36.3828  |
|               | 15           | 12        | 55        | 44.36.3831  | 43.36.3831  |
|               | 15           | 13        | 55        | 44.36.3833  | 43.36.3833  |
|               | 15           | 14        | 55        | 44.36.3836  |             |
|               | 16           | 10        | 55        | 44.36.4126  |             |
|               | 16           | 11        | 55        | 44.36.4128  | 43.36.4128  |
|               | 16           | 12        | 55        | 44.36.4131  | 43.36.4131  |
|               | 16           | 13        | 55        | 44.36.4133  | 43.36.4133  |
|               | 16           | 14        | 55        | 44.36.4136  | 43.36.4136  |
|               | 16           | 15        | 55        | 44.36.4138  | 43.36.4138  |
|               | 16           | 16        | 55        | 44.36.4141  | 43.36.4141  |
|               | 16           | 17        | 55        | 44.36.4143  |             |
|               | 17           | 11        | 55        | 44.36.4328  |             |
|               | 17           | 12        | 55        | 44.36.4331  | 43.36.4331  |
|               | 17           | 13        | 55        | 44.36.4333  | 43.36.4333  |
|               | 17           | 14        | 55        | 44.36.4336  | 43.36.4336  |
|               | 17           | 15        | 55        | 44.36.4338  | 43.36.4338  |
|               | 17           | 16        | 55        | 44.36.4340  | 43.36.4340  |
|               | 17           | 17        | 55        | 44.36.4343  | 43.36.4343  |
|               | 18           | 13        | 55        | 44.36.4633  | 43.36.4633  |
|               | 18           | 14        | 55        | 44.36.4636  | 43.36.4636  |
|               | 18           | 15        | 55        | 44.36.4638  | 43.36.4638  |
|               | 18           | 16        | 55        | 44.36.4641  |             |
|               | 18           | 17        | 55        | 44.36.4643  |             |
|               | 19           | 12        |           |             |             |
|               | 19           | 13        | 55        | 44.36.4833  |             |
|               | 19           | 14        | 55        | 44.36.4836  |             |
|               | 19           | 15        | 55        | 44.36.4838  |             |
|               | 19           | 16        | 55        | 44.36.4841  | 43.36.4841  |
|               | 19           | 17        | 55        | 44.36.4843  | 43.36.4843  |
|               | 19           | 18        |           |             |             |
|               | 19           | 19        |           |             |             |

| Diameter (") | Pitch (") | Surface % | Part number | Part number |
|--------------|-----------|-----------|-------------|-------------|
| 14           | 9         |           |             |             |
| 14           | 10        |           |             |             |
| 14           | 13        | 72        | 46.39.3633  |             |
| 14           | 14        | 72        | 46.39.3636  |             |
| 14           | 16        | 72        | 46.39.3641  |             |
| 15           | 9         |           |             |             |
| 15           | 10        |           |             |             |
| 15           | 11        |           |             |             |
| 15           | 12        |           |             |             |
| 15           | 13        |           |             |             |
| 15           | 14        | 72        | 46.39.3836  |             |
| 16           | 10        |           |             |             |
| 16           | 11        | 72        | 46.39.4128  |             |
| 16           | 12        | 72        | 46.39.4131  |             |
| 16           | 13        | 72        | 46.39.4133  | 45.39.4133  |
| 16           | 14        | 72        | 46.39.4136  |             |
| 16           | 15        | 72        | 46.39.4138  | 45.39.4138  |
| 16           | 16        | 72        | 46.39.4141  | 45.39.4141  |
| 16           | 17        | 72        | 46.39.4143  | 45.39.4143  |
| 17           | 11        |           |             |             |
| 17           | 12        |           |             |             |
| 17           | 13        | 72        | 46.39.4333  |             |
| 17           | 14        | 72        | 46.39.4336  |             |
| 17           | 15        | 72        | 46.39.4338  |             |
| 17           | 16        |           |             |             |
| 17           | 17        |           |             |             |
| 18           | 13        |           |             |             |
| 18           | 14        | 72        | 46.39.4636  |             |
| 18           | 15        | 72        | 46.39.4638  |             |
| 18           | 16        | 72        | 46.39.4641  |             |
| 18           | 17        | 72        | 46.39.4643  |             |
| 19           | 12        | 72        | 46.38.4831  |             |
| 19           | 13        |           |             |             |
| 19           | 14        | 72        | 46.39.4836  |             |
| 19           | 15        | 72        | 46.39.4838  |             |
| 19           | 16        | 72        | 46.39.4841  |             |
| 19           | 17        |           |             |             |
| 19           | 18        | 72        | 46.39.4846  |             |
| 19           | 19        | 72        | 46.39.4848  |             |



## 3 BLADES



## 4 BLADES



| Shaft         | Diameter (") | Pitch (") | Surface % | Part number | Part number |
|---------------|--------------|-----------|-----------|-------------|-------------|
| Ø<br>35<br>mm | 16           | 11        |           |             |             |
|               | 16           | 12        |           |             |             |
|               | 16           | 13        |           |             |             |
|               | 16           | 14        |           |             |             |
|               | 16           | 15        |           |             |             |
|               | 16           | 16        |           |             |             |
|               | 16           | 17        |           |             |             |
|               | 17           | 11        | 55        | 44.46.4328  |             |
|               | 17           | 12        | 55        | 44.46.4331  | 43.46.4331  |
|               | 17           | 13        | 55        | 44.46.4333  | 43.46.4333  |
|               | 17           | 14        | 55        | 44.46.4336  | 43.46.4336  |
|               | 17           | 15        | 55        | 44.46.4338  | 43.46.4338  |
|               | 17           | 16        | 55        | 44.46.4340  | 43.46.4340  |
|               | 17           | 17        | 55        | 44.46.4343  | 43.46.4343  |
|               | 18           | 13        | 55        | 44.46.4633  | 43.46.4633  |
|               | 18           | 14        | 55        | 44.46.4636  | 43.46.4636  |
|               | 18           | 15        | 55        | 44.46.4638  | 43.46.4638  |
|               | 18           | 16        | 55        | 44.46.4641  |             |
|               | 18           | 17        | 55        | 44.46.4643  |             |
|               | 19           | 12        |           |             |             |
|               | 19           | 13        | 55        | 44.46.4833  |             |
|               | 19           | 14        | 55        | 44.46.4836  |             |
|               | 19           | 15        | 55        | 44.46.4838  | 43.46.4838  |
|               | 19           | 16        | 55        | 44.46.4841  | 43.46.4841  |
|               | 19           | 17        | 55        | 44.46.4843  | 43.46.4843  |
|               | 19           | 18        |           |             |             |
|               | 19           | 19        |           |             |             |
|               | 20           | 13        | 55        | 44.46.5133  | 43.46.5133  |
|               | 20           | 15        | 55        | 44.46.5138  | 43.46.5138  |
|               | 20           | 16        | 55        | 44.46.5141  | 43.46.5141  |
|               | 20           | 17        | 55        | 44.46.5143  | 43.46.5143  |
|               | 20           | 21        |           |             |             |
|               | 21           | 16        | 55        | 44.46.5341  | 43.46.5341  |
|               | 21           | 17        | 55        | 44.46.5343  | 43.46.5343  |
|               | 21           | 18        | 55        | 44.46.5346  | 43.46.5346  |
|               | 22           | 15        |           |             |             |
|               | 22           | 16        | 55        | 44.46.5641  | 43.46.5641  |
|               | 22           | 17        | 55        | 44.46.5643  | 43.46.5643  |
|               | 22           | 18        | 55        | 44.46.5646  | 43.46.5646  |
|               | 22           | 19        |           |             |             |
|               | 23           | 20        |           |             |             |

| Diameter (") | Pitch (") | Surface % | Part number | Part number |
|--------------|-----------|-----------|-------------|-------------|
| 16           | 11        | 72        | 46.49.4128  |             |
| 16           | 12        | 72        | 46.49.4131  |             |
| 16           | 13        | 72        | 46.49.4133  | 45.49.4133  |
| 16           | 14        | 72        | 46.49.4136  |             |
| 16           | 15        | 72        | 46.49.4138  | 45.49.4138  |
| 16           | 16        | 72        | 46.49.4141  | 45.49.4141  |
| 16           | 17        | 72        | 46.49.4143  | 45.49.4143  |
| 17           | 11        |           |             |             |
| 17           | 12        |           |             |             |
| 17           | 13        | 72        | 46.49.4333  |             |
| 17           | 14        | 72        | 46.49.4336  |             |
| 17           | 15        | 72        | 46.49.4338  |             |
| 17           | 16        |           |             |             |
| 17           | 17        |           |             |             |
| 18           | 13        | 72        | 46.49.4633  |             |
| 18           | 14        | 72        | 46.49.4636  |             |
| 18           | 15        | 72        | 46.49.4638  |             |
| 18           | 16        | 72        | 46.49.4641  |             |
| 18           | 17        | 72        | 46.49.4643  |             |
| 19           | 12        | 69        | 46.48.4831  |             |
| 19           | 13        |           |             |             |
| 19           | 14        | 72        | 46.49.4836  |             |
| 19           | 15        | 72        | 46.49.4838  |             |
| 19           | 16        | 72        | 46.49.4841  |             |
| 19           | 17        |           |             |             |
| 19           | 18        | 72        | 46.49.4846  |             |
| 19           | 19        | 72        | 46.49.4848  |             |
| 20           | 13        |           |             |             |
| 20           | 15        |           |             |             |
| 20           | 16        |           |             |             |
| 20           | 17        |           |             |             |
| 20           | 21        | 72        | 46.49.5153  |             |
| 21           | 16        |           |             |             |
| 21           | 17        |           |             |             |
| 21           | 18        | 72        | 46.49.5346  |             |
| 22           | 15        | 69        | 46.48.5537  | 45.48.5537  |
| 22           | 16        |           |             |             |
| 22           | 17        | 69        | 46.48.5543  | 45.48.5543  |
| 22           | 18        | 72        | 46.49.5646  | 45.49.5646  |
| 22           | 19        | 69        | 46.48.5648  | 45.48.5648  |
| 23           | 20        | 69        | 46.48.5851  | 45.48.5851  |

## 3 BLADES



## 4 BLADES



| Shaft         | Diameter (") | Pitch (") | Surface % | Part number | Part number | Diameter (") | Pitch (") | Surface % | Part number | Part number |
|---------------|--------------|-----------|-----------|-------------|-------------|--------------|-----------|-----------|-------------|-------------|
| Ø<br>40<br>mm | 18           | 13        |           |             |             | 18           | 13        | 72        | 46.59.4633  |             |
|               | 18           | 14        |           |             |             | 18           | 14        | 72        | 46.59.4636  |             |
|               | 18           | 15        |           |             |             | 18           | 15        | 72        | 46.59.4638  |             |
|               | 18           | 16        |           |             |             | 18           | 16        | 72        | 46.59.4641  |             |
|               | 18           | 17        |           |             |             | 18           | 17        | 72        | 46.59.4643  |             |
|               | 18           | 18        |           |             |             | 18           | 18        | 72        | 46.59.4646  |             |
|               | 18           | 19        |           |             |             | 18           | 19        | 72        | 46.59.4648  |             |
|               | 19           | 12        |           |             |             | 19           | 12        | 69        | 46.58.4831  |             |
|               | 19           | 14        |           |             |             | 19           | 14        | 72        | 46.59.4836  |             |
|               | 19           | 15        |           |             |             | 19           | 15        | 72        | 46.59.4838  |             |
|               | 19           | 16        |           |             |             | 19           | 16        | 72        | 46.59.4841  |             |
|               | 19           | 18        |           |             |             | 19           | 18        | 72        | 46.59.4846  |             |
|               | 19           | 19        |           |             |             | 19           | 19        | 72        | 46.59.4848  |             |
|               | 20           | 13        | 55        | 44.56.5133  | 44.56.5133  | 20           | 13        |           |             |             |
|               | 20           | 15        | 55        | 44.56.5138  | 43.56.5138  | 20           | 15        |           |             |             |
|               | 20           | 16        | 55        | 44.56.5141  | 43.56.5141  | 20           | 16        |           |             |             |
|               | 20           | 17        | 55        | 44.56.5143  | 43.56.5143  | 20           | 17        |           |             |             |
|               | 20           | 21        |           |             |             | 20           | 21        | 72        | 46.59.5153  |             |
|               | 20           | 23        | 55        | 44.56.5158  | 43.56.5158  | 20           | 23        |           |             |             |
|               | 20           | 24        | 55        | 44.56.5161  |             | 20           | 24        |           |             |             |
|               | 21           | 16        | 55        | 44.56.5341  | 43.56.5341  | 21           | 16        |           |             |             |
|               | 21           | 17        | 55        | 44.56.5343  | 43.56.5343  | 21           | 17        |           |             |             |
|               | 21           | 18        | 55        | 44.56.5346  | 43.56.5346  | 21           | 18        | 72        | 46.59.5346  |             |
|               | 21           | 23.5      | 55        | 44.56.5359  | 43.56.5359  | 21           | 23.5      | 69        |             |             |
|               | 22           | 15        |           |             |             | 22           | 15        |           | 46.58.5537  | 45.58.5537  |
|               | 22           | 16        | 55        | 44.56.5641  | 43.56.5641  | 22           | 16        | 69        |             |             |
|               | 22           | 17        | 55        | 44.56.5643  | 43.56.5643  | 22           | 17        | 72        | 46.58.5543  | 45.58.5543  |
|               | 22           | 18        | 55        | 44.56.5646  | 43.56.5646  | 22           | 18        | 69        | 46.59.5646  | 45.59.5646  |
|               | 22           | 19        |           |             |             | 22           | 19        | 69        | 46.58.5648  | 45.58.5648  |
|               | 23           | 20        |           |             |             | 23           | 20        | 55        | 46.58.5851  | 45.58.5851  |
|               | 24           | 16        | 55        | 44.56.6141  |             | 24           | 16        | 72        | 43.56.6141  |             |
|               | 24           | 17        | 55        | 46.59.6143  |             | 24           | 17        | 72        | 46.59.6143  | 45.59.6143  |
|               | 24           | 18        | 55        | 44.56.6146  |             | 24           | 18        | 72        | 46.59.6146  | 45.59.6146  |
|               | 24           | 19        | 55        | 44.56.6148  |             | 24           | 19        | 72        | 46.59.6148  |             |
|               | 24           | 20        | 55        | 44.56.6151  |             | 24           | 20        | 72        | 46.59.6151  | 45.59.6151  |
|               | 24           | 22        |           |             |             | 24           | 22        | 69        | 46.59.6156  | 45.59.6156  |
|               | 25           | 15        |           |             |             | 25           | 15        | 69        | 46.58.6338  |             |
|               | 25           | 16        |           |             |             | 25           | 16        | 69        | 46.58.6341  |             |
|               | 26           | 18        |           |             |             | 26           | 18        |           | 46.58.6646  |             |
|               | 26           | 19        | 55        | 44.56.6648  |             | 26           | 19        | 69        |             |             |
|               | 26           | 20        | 55        | 44.56.6651  |             | 26           | 20        | 69        | 46.59.6651  | 45.59.6651  |
|               | 26           | 21        | 55        | 44.56.6654  |             | 26           | 21        | 69        | 46.58.6653  |             |
|               | 26           | 22        |           |             |             | 26           | 22        | 69        | 46.58.6656  | 45.58.6656  |
|               | 26           | 24        |           |             |             | 26           | 24        | 69        | 46.58.6661  |             |
|               | 26           | 25        |           |             |             | 26           | 25        |           | 46.58.6663  |             |



## 3 BLADED



## 4 BLADES



| Shaft         | Diameter (") | Pitch (") | Surface % | Part number | Part number |
|---------------|--------------|-----------|-----------|-------------|-------------|
| Ø<br>45<br>mm | 19           | 12        |           |             |             |
|               | 20           | 18        |           |             |             |
|               | 21           | 18        |           |             |             |
|               | 22           | 15        |           |             |             |
|               | 22           | 17        |           |             |             |
|               | 22           | 18        |           |             |             |
|               | 22           | 19        |           |             |             |
|               | 23           | 20        |           |             |             |
|               | 24           | 16        | 55        | 44.66.6141M | 43.66.6141M |
|               | 24           | 17        |           |             |             |
|               | 24           | 18        | 55        | 44.66.6146M |             |
|               | 24           | 19        | 55        | 44.66.6148M |             |
|               | 24           | 20        | 55        | 44.66.6151M |             |
|               | 24           | 22        |           |             |             |
|               | 25           | 15        |           |             |             |
|               | 25           | 16        |           |             |             |
|               | 26           | 18        |           |             |             |
|               | 26           | 19        | 55        | 44.66.6648M |             |
|               | 26           | 20        | 55        | 44.66.6651M |             |
|               | 26           | 21        | 55        | 44.66.6654M | 43.66.6654M |
|               | 26           | 22        |           |             |             |
|               | 26           | 24        |           |             |             |
|               | 26           | 25        |           |             |             |
|               | 28           | 23        |           |             |             |
|               | 28           | 24        |           |             |             |
|               | 28           | 26        |           |             |             |
|               | 30           | 21        |           |             |             |

| Diameter (") | Pitch (") | Surface % | Part number | Part number |
|--------------|-----------|-----------|-------------|-------------|
| 19           | 12        | 69        | 46.68.4831M |             |
| 20           | 18        | 72        | 46.69.5146M |             |
| 21           | 18        | 72        | 46.69.5346M |             |
| 22           | 15        | 69        | 46.68.5537M | 45.68.5537M |
| 22           | 17        | 69        | 46.68.5543M | 45.68.5543M |
| 22           | 18        | 72        | 46.69.5646M | 45.69.5646M |
| 22           | 19        | 69        | 46.68.5648M | 45.68.5648M |
| 23           | 20        | 69        | 46.68.5851M | 45.68.5851M |
| 24           | 16        |           |             |             |
| 24           | 17        | 72        | 46.69.6143M | 45.69.6143M |
| 24           | 18        | 72        | 46.69.6146M | 45.69.6146M |
| 24           | 19        | 72        | 46.69.6148M |             |
| 24           | 20        | 72        | 46.69.6151M | 45.69.6151M |
| 24           | 22        | 72        | 46.69.6156M | 45.69.6156M |
| 25           | 15        | 69        | 46.68.6338M |             |
| 25           | 16        | 69        | 46.68.6341M |             |
| 26           | 18        | 69        | 46.68.6646M |             |
| 26           | 19        |           |             |             |
| 26           | 20        | 69        | 46.69.6651M | 45.69.6651M |
| 26           | 21        | 69/72     | 46.68.6653M | 45.69.6654M |
| 26           | 22        | 69        | 46.68.6656M | 45.68.6656M |
| 26           | 24        | 69        | 46.68.6661M |             |
| 26           | 25        | 69        | 46.68.6663M |             |
| 28           | 23        | 69        | 46.68.7158M |             |
| 28           | 24        | 69        | 46.68.7161M |             |
| 28           | 26        | 69        | 46.68.7166M |             |
| 30           | 21        | 69        | 46.68.7653M |             |

## 3 BLADES



## 4 BLADES



Shaft

Ø  
50  
mm

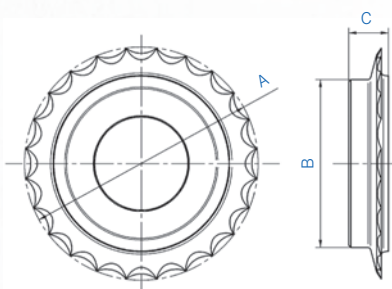
| Diameter (") | Pitch (") | Surface % | Part number | Part number |
|--------------|-----------|-----------|-------------|-------------|
| 22           | 17        | 69        | 46.78.5543  | 45.785648   |
| 22           | 19        | 69        | 46.785648   | 45.78.5543  |
| 22           | 22        |           |             |             |
| 23           | 20        | 69        | 46.78.5851  | 45.78.5851  |
| 24           | 17        | 72        | 46.79.6143  | 45.79.6143  |
| 24           | 18        | 72        | 46.79.6146  | 45.79.6146  |
| 24           | 19        | 72        | 46.79.6148  |             |
| 24           | 20        | 72        | 46.79.6151  |             |
| 24           | 22        | 69        | 46.79.6156  | 45.79.6151  |
| 25           | 15        | 69        | 46.78.6338  | 45.79.6156  |
| 25           | 16        | 69        | 46.78.6341  |             |
| 26           | 18        | 69        | 46.78.6646  |             |
| 26           | 20        | 69        | 46.79.6651  |             |
| 26           | 21        | 69/72     | 46.78.6653  | 45.79.6651  |
| 26           | 22        | 69        | 46.78.6656  | 45.79.6654  |
| 26           | 24        | 69        | 46.78.6661  | 45.78.6656  |
| 26           | 25        | 69        | 46.78.6663  |             |
| 27           | 23        | 69        | 46.78.6858  |             |
| 28           | 21        | 69        | 46.78.7153  |             |
| 28           | 22        | 69        | 46.78.7156  |             |
| 28           | 23        | 69        | 46.78.7158  |             |
| 28           | 24        | 69        | 46.78.7161  |             |
| 28           | 26        | 69        | 46.78.7166  |             |
| 30           | 21        | 69        | 46.78.7653  |             |
| 30           | 23        | 69        | 46.78.7658  |             |
| 33           | 20        | 69        | 46.78.8550  |             |

Shaft

Ø  
60  
mm

| Diameter (") | Pitch (") | Surface % | Part number | Part number |
|--------------|-----------|-----------|-------------|-------------|
| 26           | 20        | 72        | 46.99.6651  | 45.99.6651  |
| 26           | 22        | 69        | 46.98.6656  | 45.98.6656  |
| 27           | 23        | 69        | 46.98.6858  |             |
| 28           | 22        | 69        | 46.98.7156  |             |
| 28           | 24        | 69        | 46.98.7161  |             |
| 28           | 26        | 69        | 46.98.7166  |             |
| 30           | 21        | 69        | 46.98.7653  |             |
| 30           | 23        | 69        | 46.98.7658  |             |
| 31           | 18        | 69        | 46.98.7946  |             |
| 33           | 20        | 69        | 46.98.8550  |             |





The threaded bores on the propeller must be machined. Rope cutter mounting screws included.

In order to mount the rope cutters, the new specified anodes must be mounted.

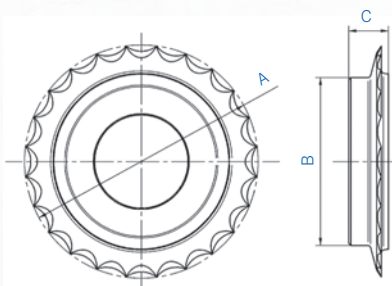
The rope cutter for the Volvo 130S is only compatible with fixed blade propellers.

Made of Stainless steel AISI-316L.  
This rope cutter cuts nylon ropes, plastic nets and flexible cable of up to 7mm, freeing the propeller and thus preventing further damage. See assembly notes. Use gloves, cutting edges.

#### DIMENSIONS AND PART NUMBERS

| Ø (mm) | A   | B    | C  | Model                  | Anode (A)          | Rope cutter (B)   | Set (A)+(B)     |
|--------|-----|------|----|------------------------|--------------------|-------------------|-----------------|
| 38     | 120 | 76.5 | 11 | YANMAR SD20 / SD31     | <b>40039092.1</b>  | <b>40039025.1</b> | <b>40039023</b> |
| 38     | 120 | 76.5 | 11 | VOLVO 120S             | <b>40039092.2</b>  | <b>40039025.1</b> | <b>40039022</b> |
| 38     | 120 | 76.5 | 11 | VOLVO 130S             | ---                | <b>40039025.1</b> | <b>40039025</b> |
| 32     | 140 | 76.5 | 12 | SPROP-60 (TechnoDrive) | <b>24813500.84</b> | <b>40039025.1</b> | <b>40039024</b> |

Dimensions in mm



Made of Stainless steel AISI-316L.  
There are several models available depending on shaft diameter, from 22mm to 70mm. This rope cutter cuts nylon ropes, plastic nets and flexible cable (maximum 7mm), freeing the propeller and thus avoiding further damage. Easy assembly. (Use gloves, cutting edges).

#### DIMENSIONS AND PART NUMBERS

| Ø(in)  | A    | B   | B  | Part number       |
|--------|------|-----|----|-------------------|
| 1"     | Ø80  | Ø53 | 17 | <b>400.25.023</b> |
| 1 1/4" | Ø80  | Ø53 | 17 | <b>400.32.023</b> |
| 1 1/2" | Ø100 | Ø72 | 17 | <b>400.38.023</b> |
| 1 3/4" | Ø120 | Ø92 | 17 | <b>400.44.023</b> |
| 2"     | Ø120 | Ø82 | 17 | <b>400.51.023</b> |
| 2 1/4" | Ø120 | Ø92 | 17 | <b>400.57.023</b> |

Dimensions in mm

#### DIMENSIONS AND PART NUMBERS

| Ø(mm) | A    | B    | C    | Part number       |
|-------|------|------|------|-------------------|
| 22    | Ø80  | Ø53  | 17   | <b>400.22.022</b> |
| 25    | Ø80  | Ø53  | 17   | <b>400.25.022</b> |
| 30    | Ø80  | Ø53  | 17   | <b>400.30.022</b> |
| 35    | Ø100 | Ø72  | 17   | <b>400.35.022</b> |
| 40    | Ø100 | Ø72  | 17   | <b>400.40.022</b> |
| 45    | Ø120 | Ø92  | 17   | <b>400.45.022</b> |
| 50    | Ø120 | Ø92  | 17   | <b>400.50.022</b> |
| 60    | Ø150 | Ø110 | 30   | <b>400.60.022</b> |
| 70    | Ø180 | Ø128 | 31.5 | <b>400.70.022</b> |
| 75    | Ø200 | Ø128 | 32.5 | <b>400.75.022</b> |

Dimensions in mm







accessories.

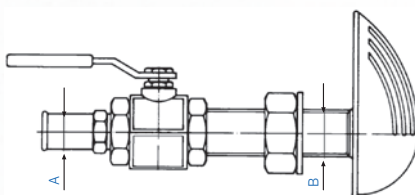
7



## sea water cocks



Cooling sea water intake made of brass. The assembly consists of a water intake with filter screen and hull transom, ball valve and connecting sleeve. Must be installed with the filter facing the stern.



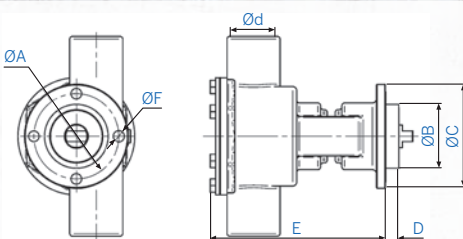
## DIMENSIONS AND PART NUMBERS

| Ø (in) | A | B     | Valve  | Part number       |
|--------|---|-------|--------|-------------------|
| Ø13    |   | Ø21   | 1/2"   | <b>601.21.000</b> |
| Ø19    |   | Ø21   | 1/2"   | <b>601.32.000</b> |
| Ø25    |   | Ø26.5 | 1"     | <b>601.51.000</b> |
| Ø32    |   | Ø33   | 1"     | <b>601.46.000</b> |
| Ø38    |   | Ø42   | 1 1/4" | <b>601.67.000</b> |
| Ø45    |   | Ø47.8 | 1 1/2" | <b>601.01.000</b> |

Dimensions in mm

## cooling water pump

## SALT WATER PUMP



## DIMENSIONS AND PART NUMBERS

| Ød   | Q (l/min)<br>1500 r.p.m. | Q (l/min)<br>2500 r.p.m. | ØA        | ØB     | ØC  | D   | E   | ØF   | Ref               | Part number<br>repair kit |
|------|--------------------------|--------------------------|-----------|--------|-----|-----|-----|------|-------------------|---------------------------|
| 1/2" | 18                       | 29                       | 63.5x63.5 | 50.8f7 | --- | 3   | 95  | 4xØ9 | <b>334.11.000</b> | <b>33411000K</b>          |
| 3/4" | 31                       | 56                       | 64        | 35H7   | 75  | --- | 85  | 4xØ7 | <b>352.11.000</b> | <b>35211000K</b>          |
| 1"   | 75                       | 122                      |           | 48e8   | 78  | 10  | 132 | 4xØ7 | <b>365.11.000</b> | <b>36511000K</b>          |

Dimensions in mm

## REPAIR KIT



## water filters

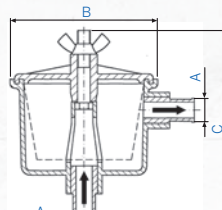
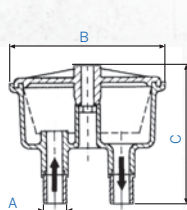
## TYPE A

## TYPE B



## TYPE A

## TYPE B



## DIMENSIONS AND PART NUMBERS

| Ø (in)       | A | B    | C   | Capacity  | Part number       | Type |
|--------------|---|------|-----|-----------|-------------------|------|
| Ø12 - 1/2"   |   | Ø130 | 160 | 60 l/min  | <b>603.38.000</b> | A    |
| Ø16 - 5/16"  |   | Ø130 | 130 | 90 l/min  | <b>603.38.000</b> | A    |
| Ø19 - 3/4"   |   | Ø160 | 230 | 135 l/min | <b>603.71.000</b> | A    |
| Ø25 - 1"     |   | Ø160 | 190 | 225 l/min | <b>603.71.000</b> | A    |
| Ø32 - 1 1/4" |   | Ø160 | 160 | 345 l/min | <b>603.71.000</b> | A    |
| Ø38 - 1 1/2" |   | Ø145 | 215 | 375 l/min | <b>603.67.100</b> | B    |
| Ø42 1 3/4"   |   | Ø145 | 215 | 375 l/min | <b>603.94.000</b> | B    |

Dimensions in mm

Water filters prevent pump and heat exchangers from becoming blocked. Transparent plastic cover facilitates service and washing of the element. Must be installed over the waterline.



## water strainer

## TYPE A



Metallic water strainer built in on brass, inside filter in stainless steel, and transparent plastic cap. These filters are highly recommended for all kind of installations of marine engines and marine gen sets. Homologated by RINA.

FIG 1

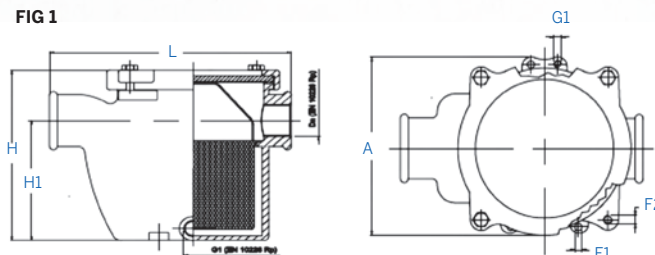
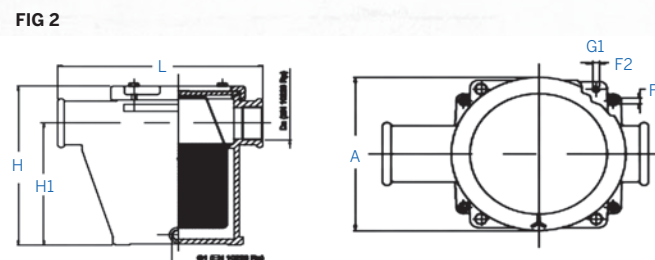


FIG 2



## DIMENSIONS AND PART NUMBERS

| Ø (in) | H   | H1  | L   | A   | F  | F1 | F2 | G1   | Fig | 0,1 Bar | 1 Bar  | Part number       |
|--------|-----|-----|-----|-----|----|----|----|------|-----|---------|--------|-------------------|
| 1/2"   | 119 | 87  | 139 | 98  | -  | 5  | M6 | 1/4" | 2   | 2.050   | 7.000  | <b>603.10.012</b> |
| 1"     | 139 | 98  | 171 | 126 | M5 | 5  | M6 | 1/4" | 1   | 5.800   | 20.000 | <b>603.10.100</b> |
| 1 1/2" | 196 | 150 | 225 | 148 | -  | 5  | M6 | 1/4" | 2   | 11.750  | 40.350 | <b>603.10.112</b> |
| 2"     | 226 | 164 | 274 | 193 | -  | 6  | M8 | 1/4" | 2   | 19.700  | 67.600 | <b>306.10.200</b> |

Dimensions in mm

\* Fittings not included

## PART NUMBERS

## REDUCTION

|                 | Part number       |
|-----------------|-------------------|
| 1/2" - 3/8"     | <b>603.94.004</b> |
| 1 - 3/4"        | <b>603.94.003</b> |
| 1 1/2" - 1 1/4" | <b>603.94.002</b> |

WATER FILTER ELEMENT  
IN INOX

|        | Part number         |
|--------|---------------------|
| 1/2"   | <b>603.10.012.1</b> |
| 1      | <b>603.10.100.1</b> |
| 1 1/2" | <b>603.10.112.1</b> |

## O-RING WATER FILTER

|        | Part number         |
|--------|---------------------|
| 1/2"   | <b>603.10.012.2</b> |
| 1      | <b>603.10.100.2</b> |
| 1 1/2" | <b>603.10.112.2</b> |

## FITTINGS AVAILABLES

| FILTER 1/2"       | Part number       |
|-------------------|-------------------|
| Fitting 1/2" x 18 | <b>603.38.055</b> |
| Fitting 1/2" x 19 | <b>603.38.056</b> |
| Fitting 1/2" x 20 | <b>603.38.057</b> |

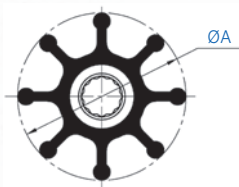
## FITTINGS AVAILABLES

| FILTER 1"       | Part number       |
|-----------------|-------------------|
| Fitting 1" x 20 | <b>603.71.055</b> |
| Fitting 1" x 22 | <b>603.71.056</b> |
| Fitting 1" x 25 | <b>603.71.057</b> |
| Fitting 1" x 27 | <b>603.71.058</b> |
| Fitting 1" x 30 | <b>603.71.059</b> |
| Fitting 1" x 32 | <b>603.71.060</b> |
| Fitting 1" x 33 | <b>603.71.061</b> |
| Fitting 1" x 34 | <b>603.71.062</b> |
| Fitting 1" x 35 | <b>603.71.063</b> |

| FILTER 1 1/2"       | Part number       |
|---------------------|-------------------|
| Fitting 1 1/2" x 25 | <b>603.94.055</b> |
| Fitting 1 1/2" x 32 | <b>603.94.056</b> |
| Fitting 1 1/2" x 35 | <b>603.94.057</b> |
| Fitting 1 1/2" x 38 | <b>603.94.058</b> |
| Fitting 1 1/2" x 39 | <b>603.94.059</b> |
| Fitting 1 1/2" x 40 | <b>603.94.060</b> |
| Fitting 1 1/2" x 41 | <b>603.94.061</b> |
| Fitting 1 1/2" x 45 | <b>603.94.062</b> |
| Fitting 1 1/2" x 50 | <b>603.94.063</b> |
| Fitting 1 1/2" x 51 | <b>603.94.064</b> |

| FILTER 2"         | Part number       |
|-------------------|-------------------|
| Entronque 2" x 38 | <b>603.10.205</b> |
| Entronque 2" x 45 | <b>603.10.206</b> |
| Entronque 2" x 50 | <b>603.10.207</b> |
| Entronque 2" x 51 | <b>603.10.208</b> |
| Entronque 2" x 55 | <b>603.10.209</b> |
| Entronque 2" x 60 | <b>603.10.210</b> |
| Entronque 2" x 63 | <b>603.10.211</b> |
| Entronque 2" x 64 | <b>603.10.212</b> |
| Entronque 2" x 65 | <b>603.10.213</b> |

## cooling pump impeller



## DIMENSIONS AND PART NUMBERS

| Ød Pump | Part number Pump  | ØA   | No. Blades | Width | Part number Impeller |
|---------|-------------------|------|------------|-------|----------------------|
| 1/4"    | <b>321.11.000</b> | 40   | 6          | 20    | <b>321.11.000</b>    |
| 1/2"    | <b>334.11.000</b> | 52   | 6          | 25    | <b>334.11.000</b>    |
| 3/4"    | <b>352.11.000</b> | 57   | 12         | 31    | <b>352.11.000</b>    |
| 1"      | <b>365.11.000</b> | 65.5 | 10         | 50    | <b>365.11.000</b>    |
| 1"      | <b>394.11.000</b> | 65.5 | 10         | 68    | <b>394.11.000</b>    |

Dimensions in mm

## water inlet hose

## TYPE A



Rubber hose. Supplied in linear meters. The physical properties of the hose give it an optimum level of flexibility and resistance.

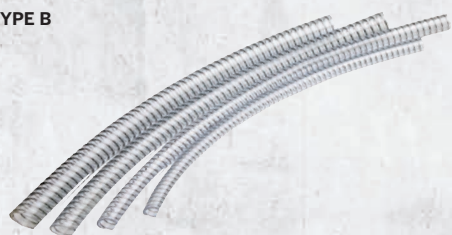
Standards: SAE J 2006:2003 R2  
ISO 13363:2004 Type 2 Class B  
Approved: 0474 R.I.N.A.  
LLOYD'S REGISTER



## Ø Id Pump Part number

|     |                  |
|-----|------------------|
| Ø19 | <b>M87501927</b> |
| Ø20 | <b>M87502029</b> |
| Ø22 | <b>M87502230</b> |
| Ø25 | <b>M87502535</b> |
| Ø28 | <b>M87502838</b> |
| Ø30 | <b>M87503040</b> |
| Ø32 | <b>M87503242</b> |
| Ø38 | <b>M87503848</b> |
| Ø40 | <b>M87504050</b> |
| Ø42 | <b>M87504252</b> |
| Ø45 | <b>M87504555</b> |

## TYPE B



High quality Transparent Water Hose with steel reinforcement. supplied in 30 mtr. roll

## Ø Id Part number

|       |                  |
|-------|------------------|
| 12-18 | <b>M87521218</b> |
| 14-20 | <b>M87521420</b> |
| 16-22 | <b>M87521622</b> |
| 20-27 | <b>M87522027</b> |
| 25-33 | <b>M87522533</b> |
| 30-38 | <b>M87523038</b> |
| 32-40 | <b>M87523240</b> |
| 35-44 | <b>M87523544</b> |
| 38-47 | <b>M87523847</b> |
| 40-49 | <b>M87524049</b> |
| 50-60 | <b>M87525060</b> |

Dimensions in mm

## boiler



electrical heating elements are available in Incoloy at 500, 800 and 1200 Watts allowing hot water production when engine heat is not available

## BOILERS PART NUMBERS

|            | 21L.              | 22L.              | 30L.              | 45L.              | 60L.              | Rectangular 20L.  |
|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 230V 500W  | <b>608.00.001</b> | <b>608.00.004</b> | <b>608.00.007</b> | <b>608.00.010</b> | <b>608.00.013</b> | <b>608.00.016</b> |
| 230V 800W  | <b>608.00.002</b> | <b>608.00.005</b> | <b>608.00.008</b> | <b>608.00.011</b> | <b>608.00.014</b> | <b>608.00.017</b> |
| 230V 1200W | <b>608.00.003</b> | <b>608.00.006</b> | <b>608.00.009</b> | <b>608.00.012</b> | <b>608.00.015</b> | <b>608.00.018</b> |



## sanitary water hose



## SALT WATER PUMP



Hardwall smooth cover rubber hose extremely flexible designed as sewage pipe for marine toilets. Its main advantage is to avoid the spreading of odours from the toilet drains.

Standards: according to EUROPEAN, FDA and ISO 8099 : 2000

\* Temperature range -40°C +120°C

| Ø Id | Part number      |
|------|------------------|
| Ø16  | <b>M87531626</b> |
| Ø19  | <b>M87531929</b> |
| Ø25  | <b>M87532535</b> |
| Ø38  | <b>M87533848</b> |

*Dimensions in mm*

## wet exhaust hose

## SALT WATER PUMP



High resistance fabric reinforced rubber hose with steel spiral wire. Supplied in linear meters. The hose's mechanical properties provide an optimum level of flexibility and resistance to engine exhaust.

Standards: SAE J 2006:2003 R2  
ISO 13363:2004 Type 2 Class B

Approved: 0474 R.I.N.A.  
LLOYD'S REGISTER



| Ø Id | Part number        |
|------|--------------------|
| Ø40  | <b>M88504052</b>   |
| Ø45  | <b>M88504557</b>   |
| Ø50  | <b>M88505062</b>   |
| Ø60  | <b>M88506072</b>   |
| Ø75  | <b>M88507587</b>   |
| Ø90  | <b>M885090102</b>  |
| Ø102 | <b>M8850102114</b> |
| Ø125 | <b>M8850152164</b> |
| Ø127 | <b>M8850127139</b> |
| Ø175 | <b>M8850175187</b> |

*Dimensions in mm*

## NORMA clamp type W4 STC - inox



With bevelled edges

## DIMENSIONS AND PART NUMBERS

| Description              | Equivalence in exhaust hose | Part number     |
|--------------------------|-----------------------------|-----------------|
| Clamp GBS 47-51 W4 STC   | Exhaust hose Ø 40           | <b>54083047</b> |
| Clamp GBS 51-55 W4 STC   | Exhaust hose Ø 45           | <b>54083051</b> |
| Clamp GBS 59-63 W4 STC   | Exhaust hose Ø 51           | <b>54083060</b> |
| Clamp GBS 68-73 W4 STC   | Exhaust hose Ø 60           | <b>54083079</b> |
| Clamp GBS 85-91 W4 STC   | Exhaust hose Ø 76           | <b>54083091</b> |
| Clamp GBS 97-101 W4 STC  | Exhaust hose Ø 90           | <b>54086097</b> |
| Clamp GBS 112-121 W4 STC | Exhaust hose Ø 102          | <b>54083121</b> |
| Clamp GBS 130-140 W4 STC | Exhaust hose Ø 127          | <b>54083140</b> |
| Clamp GBS 162-174 W4 STC | Exhaust hose Ø 152          | <b>54083174</b> |
| Clamp GBS 187-200 W4 STC | Exhaust hose Ø 175          | <b>54083200</b> |

*Dimensions in mm*

## waterlock

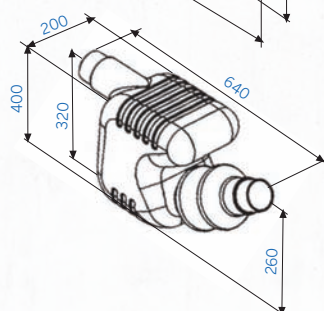
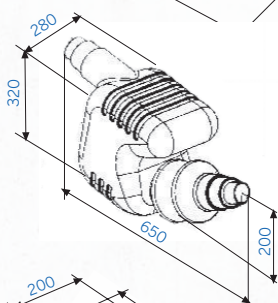
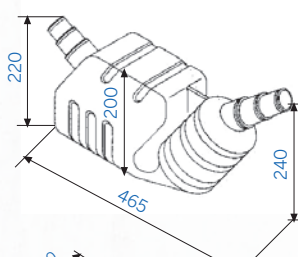
TYPE A



TYPE B



TYPE C



The waterlock/muffler performs the task of collecting the water from the exhaust hose after the engine stops, thereby preventing water from entering it. The waterlock has a built-in muffler.

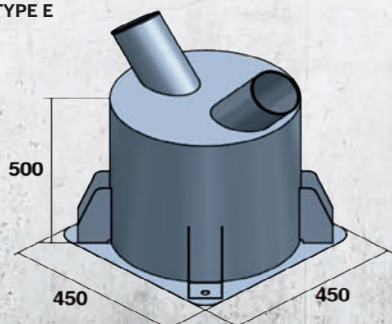
## DIMENSIONS AND PART NUMBERS

| Type       | V (lit.) | Ø (mm)   | Part number      |
|------------|----------|----------|------------------|
| 230V 500W  | 7        | 40/45/50 | <b>60700.040</b> |
| 230V 800W  | 20       | 55/60/65 | <b>60700.041</b> |
| 230V 1200W | 33       | 75/90    | <b>60700.042</b> |

Dimensions in mm

## inox waterlock

TYPE E



The waterlock/muffler performs the task of collecting the water from the exhaust hose after the engine stops, thereby preventing water from entering. This waterlock is built in INOX, specially designed for heavy duty applications. Available for SDZ-205 and SDZ-280

## DIMENSIONS AND PART NUMBERS

| Type | V(lit) | Ø (mm) | Part number        |
|------|--------|--------|--------------------|
| E    | 71     | 125    | <b>607001125.1</b> |

Dimensions in mm

## goose neck

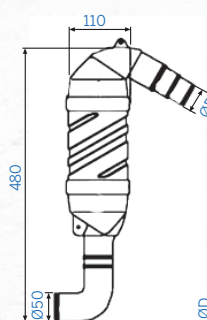
TYPE A



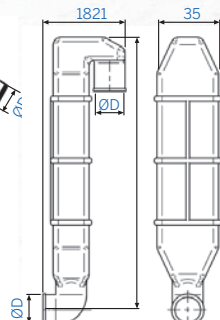
TYPE B



TYPE A



TYPE B



The goose neck prevents seawater from entering the engine.

## DIMENSIONS AND PART NUMBERS

| Type | ØD (mm)  | Part number      |
|------|----------|------------------|
| A    | 40/45/50 | <b>60700.241</b> |
| B    | 60       | <b>60700.260</b> |

Dimensions in mm



## air vent

TYPE A



TYPE B



If the injection point of the cooling water in the exhaust system is situated at a height less than 15 cm above the waterline there is a risk that when the engine is stopped the cooling water may enter the engine due to the siphoning effect. This problem can be solved by installing an air vent in the cooling water duct, about 40 cm above the waterline (max. height 2 metres). The air vent is connected by means of tube and hull transom (always mounted above the waterline), to vent to the outside. The air vent comes without hoses.

## DIMENSIONS AND PART NUMBERS

| Type | Ø (mm)           | Part number         |
|------|------------------|---------------------|
| A    | 16 -19 - 25 - 32 | <b>607.30.013</b>   |
| B    | 38               | <b>607.30.011</b>   |
| C    | 42               | <b>607.30.014 *</b> |

Dimensions in mm

\* Built on brass

## transom exhaust connection

TYPE A



TYPE B

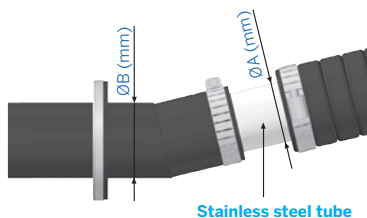


Plastic transom exhaust connection.  
Assembly above the waterline.

## DIMENSIONS AND PART NUMBERS

| Type | ØA (mm)      | ØB (mm) | Part number       |
|------|--------------|---------|-------------------|
| A    | 40 / 45 / 50 | Ø60     | <b>607.00.145</b> |
| A    | 60           | Ø68     | <b>607.00.152</b> |
| B    | 75           | Ø10     | <b>607.00.176</b> |
| A    | ---          | Ø125    | <b>607.00.182</b> |
| B    |              | Ø90     | <b>607.00.177</b> |

Dimensions in mm





Diesel fuel filter with water separator, equipped with connectors.



Complete fuel filter water separator with crystal bowl, bleeding screw and interchangeable cartridge. For engines max 3.500 cc. Max. Allowed flow 50l/h. This setting is highly recommended for marine engines in order to avoid possible problems in the engine fuel system (nozzles, Fuel injection pump).



Interchangeable cartridge and gasket for fuel filter with water separator.



Fitting kit/out D.08 or D.10 with seal rings

#### DUAL FUEL FILTER



Double, switchable Spin-On Gas-oil filter. Allows you to change the cartridge with no need to stop the engine. Specially indicated for heavy duty applications. Available for propulsion engines, standard gen sets and canopy version

#### FUEL HOSE



Black rubber fuel hose according to norm ISO-7840A1. Supplied in meter lengths.

Standards: SAE J 1527: 2004 USCG A1 RI  
ISO 7840: 2004 A1 CE

Approved by: CE 0474 R.I.N.A  
LLOYD'S REGISTER



#### DIMENSIONS AND PART NUMBERS

| Flow           | Hose inside diameter | Part number |
|----------------|----------------------|-------------|
| 240 l/h (max.) | Ø 8                  | 603.00.220  |
|                | Ø 10                 | 603.00.210  |
|                | Ø 12                 | 603.00.230  |

Dimensions in mm

#### PART NUMBERS AND DESCRIPTION

| Part number | Description                      |
|-------------|----------------------------------|
| 60300115    | Fuel filter with water separator |
| 60300103I   | Crystal bowl                     |

#### PART NUMBERS AND DESCRIPTION

| Part number | Description        |
|-------------|--------------------|
| HDF296      | Fuel filter DELPHI |

#### PART NUMBERS AND DESCRIPTION

| Part number | Description                    |
|-------------|--------------------------------|
| 60300117    | Diesel filter fitting kit D.08 |
| 60300118    | Diesel filter fitting kit D.10 |

#### PART NUMBERS AND DESCRIPTION

| Part number | Description                                      |
|-------------|--------------------------------------------------|
| 17414000    | Double switchable Spin-On Gas-oil filter kit (S) |
| 17414000I   | Double switchable Spin-On Gas-oil filter kit (C) |

#### DIMENSIONS AND PART NUMBERS

| Ø Id (mm) | Ø Ext (mm) | Part number |
|-----------|------------|-------------|
| Ø 6       | Ø 16       | M81510616   |
| Ø 8       | Ø 17       | M81510617   |
| Ø 10      | Ø 19       | M81510619   |
| Ø 12      | Ø 22       | M81510622   |
| Ø 16      | Ø 26       | M81510626   |

Dimensions in mm



## shut-down cable



Made of steel cable with  
plastic sheath and brass tips.

THREAD  
SAE 3/16"

## DIMENSIONS AND PART NUMBERS

| L(m) | Part number |
|------|-------------|
| 0.50 | 609.00.405  |
| 1.00 | 609.00.410  |
| 1.50 | 609.00.415  |
| 2.00 | 609.00.420  |
| 2.50 | 609.00.425  |
| 3.00 | 609.00.430  |
| 3.50 | 609.00.435  |
| 4.00 | 609.00.440  |
| 4.50 | 609.00.445  |
| 5.00 | 609.00.450  |
| 6.00 | 609.00.460  |

## push-pull cable (CC330 and CCX633)



Stainless steel cable with  
plastic sheath.  
No maintenance required.  
Thread type UNF 10 - 32h.

THREAD  
UNF 10 - 32h

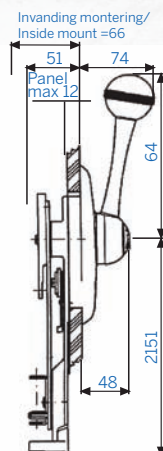
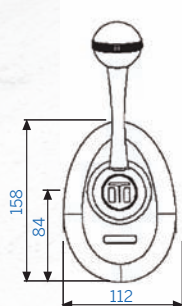
## FOR MORSE CC330

| L(m) | Part number |
|------|-------------|
| 1,5  | 6604.00.015 |
| 2    | 604.00.020  |
| 2,5  | 604.00.025  |
| 3    | 604.00.030  |
| 3,5  | 604.00.035  |
| 4    | 604.00.040  |
| 4,5  | 604.00.045  |
| 5    | 604.00.050  |
| 5,5  | 604.00.055  |
| 6    | 604.00.060  |
| 6,5  | 604.00.065  |
| 7    | 604.00.070  |
| 7,5  | 604.00.075  |
| 8    | 604.00.080  |
| 8,5  | 604.00.085  |
| 9    | 604.00.090  |
| 10   | 604.00.100  |
| 11   | 604.00.110  |
| 12   | 604.00.120  |

## FOR MORSE CCX633 XTREME

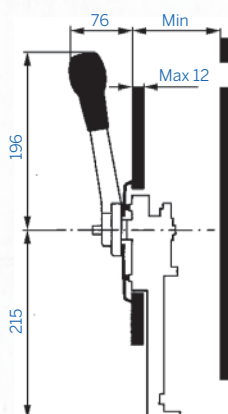
| L(m) | Part number |
|------|-------------|
| 13   | 60400130    |
| 14   | 60400140    |
| 15   | 60400150    |
| 16   | 60400160    |
| 17   | 60400170    |
| 18   | 60400180    |
| 19   | 60400190    |
| 20   | 60400200    |
| 21   | 60400210    |
| 22   | 60400220    |
| 23   | 60400230    |
| 24   | 60400240    |

## remote control levers

SIDE MOUNTING FOR  
SAILING YACHTS.

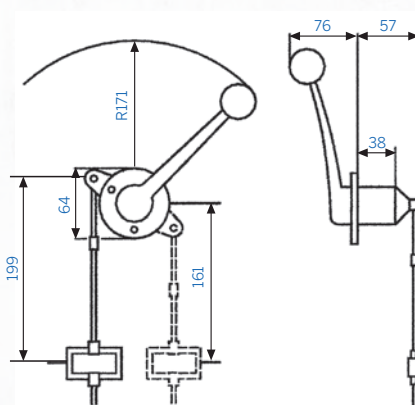
Stainless Steel

Part number  
604.20.101

SIDE MOUNTING FOR  
SAILING YACHTS

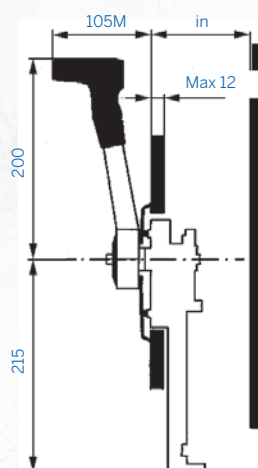
Part number

604.00.001

SIDE ASSEMBLY  
FOR IDLE VALVE

Part number

604.20.002



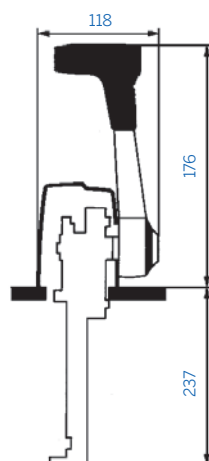
## SIDE MOUNTING

Part number

604.00.004



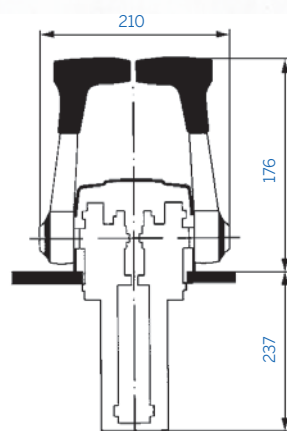
## remote control levers



## TOP MOUNTING

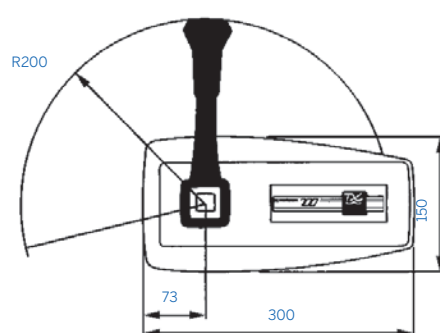
Part number

604.00.002

TOP MOUNTING FOR  
TWO ENGINES

Part number

604.00.003

MOUNTING FOR  
OUTBOARD ENGINES

Part number

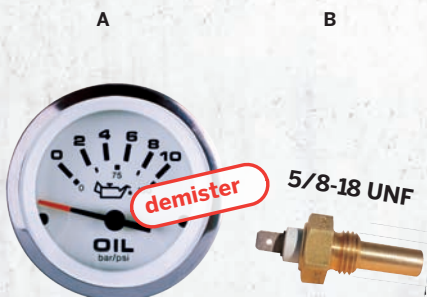
604.00.005



### RPM COUNTER ELECTRONIC 4000 RPM

Operates with all the engines, regulating each model. No transmitter needed. Directly connected to the alternator. 86 mm mounting diameter.

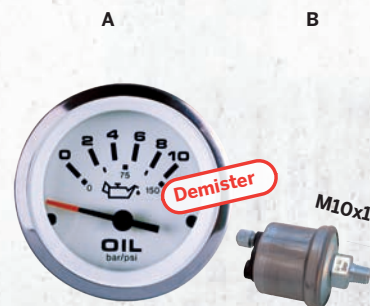
| Standard | Part number |
|----------|-------------|
| 12V      | 609.00.910  |



### WATER TEMPERATURE GAUGE

This instrument operates with all the engines. The mounting diameter is 52mm. Temperature transmitter may be supplied.

| Standard | Part number A | Part number B |
|----------|---------------|---------------|
| 12V      | 609.00.915    | 609.00.980    |



### OIL PRESSURE GAUGE

This instrument operates with all engines. The mounting diameter is 52 mm. Can be supplied with the oil pressure transmitter.

| Standard | Part number A | Part number B |
|----------|---------------|---------------|
| 12V      | 609.00.920    | 609.00.985    |



### VOLTMETER

Operates with all the engines, regulating each model. No transmitter needed. Directly connected to the alternator. 86 mm mounting diameter.

| Standard | Part number |
|----------|-------------|
| 12V      | 609.00.925  |
| 24V      | 609.00.926  |



### FUEL LEVEL GAUGE

This instrument operates with all engines. 52 mm mounting diameter.

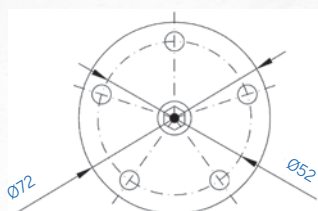
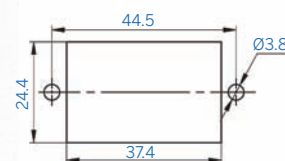
| Standard | Part number |
|----------|-------------|
| 12V      | 609.00.950  |



### HOURL COUNTER

This instrument operates with all engines. 52 mm mounting diameter.

| Standard | Part number |
|----------|-------------|
| 12V      | 609.00.918  |



### FUEL LEVEL SENSOR

For 4" to 24" tanks

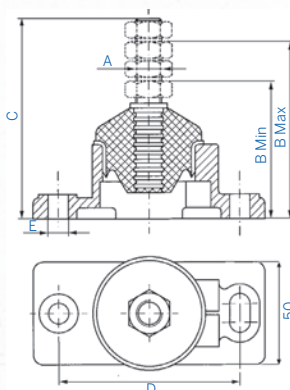
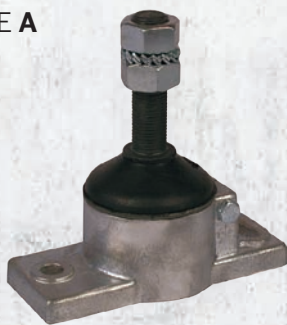
| Standard | Part number |
|----------|-------------|
| 12V      | 609.00.952  |

Dimensions in mm

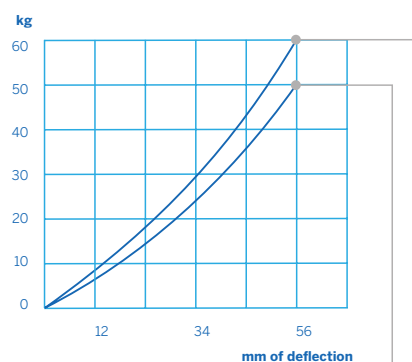


## engine mounts

## TYPE A



## STATIC DEFLECTION

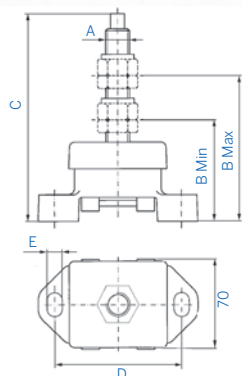


Anti Vibration Mounts of synthetic rubber and metal, able to absorb propeller's thrust. SOLÉ DIESEL engine mounts are designed to reduce engine vibrations and noise. Also provide an easy alignment during the engine installation.

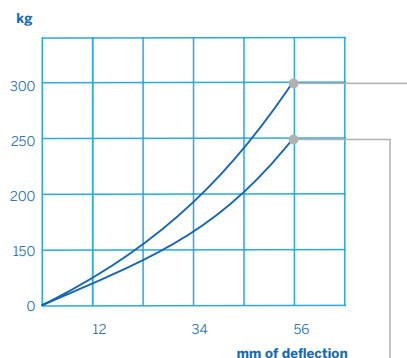
## TECHNICAL CHARACTERISTICS AND PART NUMBERS

| Load  | Hardness | A         | B Min. | B Max. | C   | D  | E  | Part number       |
|-------|----------|-----------|--------|--------|-----|----|----|-------------------|
| 50 kg | 50 Sh A  | M14 x 1.5 | 75     | 86     | 108 | 98 | 11 | <b>616.31.100</b> |
| 60 kg | 60 Sh A  | M16 x 1.5 | 75     | 100    | 125 | 98 | 11 | <b>616.51.000</b> |

## TYPE C



## STATIC DEFLECTION



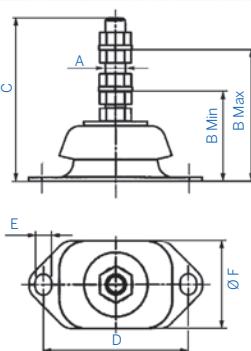
Anti Vibration Mounts of synthetic rubber and metal, able to absorb propeller's thrust. SOLÉ DIESEL engine mounts are designed to reduce engine vibrations and noise. Also provide an easy alignment during the engine installation.

## TECHNICAL CHARACTERISTICS AND PART NUMBERS

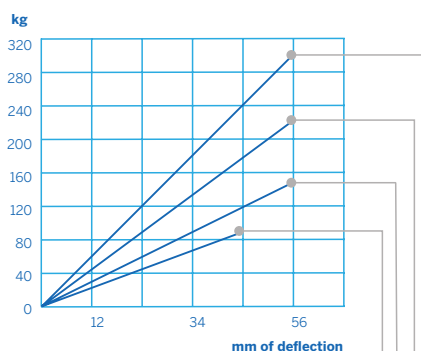
| Load   | Hardness | A        | B Min. | B Max. | C   | D   | E  | Part number       |
|--------|----------|----------|--------|--------|-----|-----|----|-------------------|
| 250 kg | 65 Sh A  | 3/4" UNF | 80     | 115    | 164 | 101 | 12 | <b>616.90.000</b> |
| 300 kg | 75 Sh A  | 3/4" UNF | 80     | 115    | 164 | 101 | 12 | <b>616.91.000</b> |

Dimensions in mm / Sh A: hardness from 20° to 90°

## TYPE D



## STATIC DEFLECTION



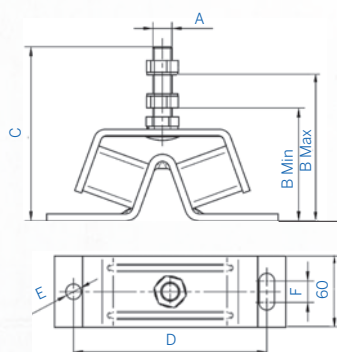
Anti Vibration Mounts of synthetic rubber and metal, able to absorb propeller's thrust. SOLÉ DIESEL engine mounts are designed to reduce engine vibrations and noise. Also provide an easy alignment during the engine installation.

## TECHNICAL CHARACTERISTICS AND PART NUMBERS

| Load   | Hardness | A         | B Min. | B Max. | C   | D   | E  | F  | Part number       |
|--------|----------|-----------|--------|--------|-----|-----|----|----|-------------------|
| 90 kg  | 65 Sh A  | M14 x 1.5 | 55     | 75     | 95  | 98  | 11 | 61 | <b>616.39.000</b> |
| 90 kg  | 65 Sh A  | M16 x 1.5 | 75     | 86     | 108 | 98  | 11 | 61 | <b>616.61.000</b> |
| 150 kg | 45 Sh A  | M16 x 1.5 | 62     | 75     | 105 | 140 | 13 | 75 | <b>616.52.000</b> |
| 225 kg | 55 Sh A  | M16 x 1.5 | 62     | 75     | 105 | 140 | 13 | 75 | <b>616.52.000</b> |
| 300 kg | 65 Sh A  | M20 x 1.5 | 65     | 75     | 120 | 140 | 13 | 75 | <b>616.65.000</b> |
| 300 kg | 65 Sh A  | M116x 1.5 | 62     | 75     | 110 | 140 | 13 | 75 | <b>616.65.000</b> |

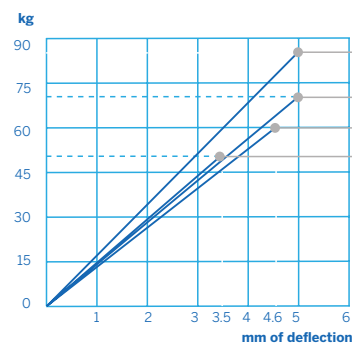
## engine mounts

## TYPE E



Dimensions in mm

## STATIC DEFLECTION

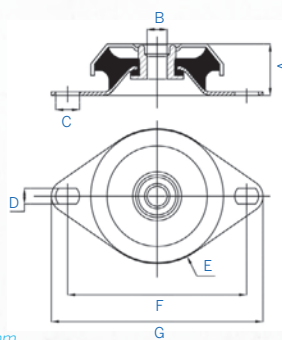


Anti Vibration Mounts of synthetic rubber and metal, able to absorb propeller's thrust. SOLÉ DIESEL engine mounts are designed to reduce engine vibrations and noise. Also provide an easy alignment during the engine installation.

## TECHNICAL CHARACTERISTICS AND PART NUMBERS

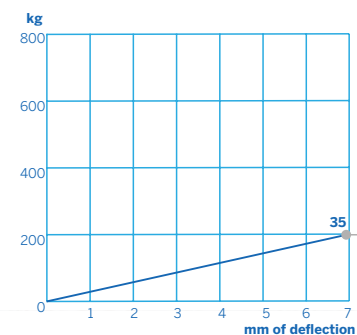
| Load  | Hardness | A         | B Min. | B Max. | C   | D   | E  | F  | Part number       |
|-------|----------|-----------|--------|--------|-----|-----|----|----|-------------------|
| 50 kg | 55 Sh A  | M16 x 1.5 | 90     | 105    | 145 | 175 | 13 | 18 | <b>616.72.000</b> |
| 60 kg | 60 Sh A  | M16 x 1.5 | 90     | 105    | 145 | 175 | 13 | 18 | <b>616.73.000</b> |
| 70 kg | 67 Sh A  | M16 x 1.5 | 90     | 105    | 145 | 175 | 13 | 18 | <b>616.71.000</b> |
| 85 kg | 75 Sh A  | M16 x 1.5 | 90     | 105    | 145 | 175 | 13 | 18 | <b>616.82.000</b> |

## TYPE F



Dimensions in mm

## STATIC DEFLECTION



Anti Vibration Mounts of synthetic rubber and metal. SOLÉ DIESEL engine mounts are designed to eliminate engine vibrations as well as noise.

## TECHNICAL CHARACTERISTICS AND PART NUMBERS

| A  | B  | C  | D    | E     | F   | G   | Part number       |
|----|----|----|------|-------|-----|-----|-------------------|
| 34 | 12 | 15 | 10   | 94    | 123 | 150 | <b>616.73.001</b> |
| 41 | 16 | 19 | 12.5 | 107.5 | 143 | 169 | <b>616.74.001</b> |





### ORIGINAL SOLÉ DIESEL ENGINE OIL

Multigrade all-season engine oil. Designed for difficult conditions with heavy loads and extreme temperatures. Solé Diesel engine oil provides the following advantages: longer oil change periods, cleaner engine, minimised wear and counteracts cylinder polishing. Suitable for turbocharged or Naturally Aspirated engines.

#### CHARACTERISTICS AND PART NUMBERS

| Litres | Part number     |
|--------|-----------------|
| 5      | <b>A0105000</b> |
| 20     | <b>A0125000</b> |



### ORIGINAL SOLÉ DIESEL ENGINE PAINT

#### CHARACTERISTICS AND PART NUMBERS

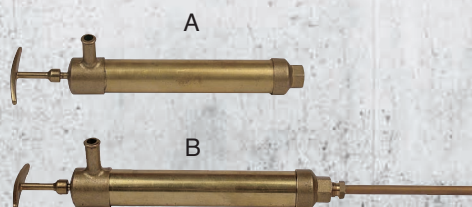
| Capacity | Colour           | Type  | Part number      |
|----------|------------------|-------|------------------|
| 200 ml   | Primer mono-shop | Spray | <b>PINIM200</b>  |
| 400 ml   | Varnish          | Spray | <b>PINES400B</b> |
| 400 ml   | Metallic Blue    | Spray | <b>PINES400</b>  |
| 1 ltr    | Metallic Blue    | Can   | <b>MPINA1000</b> |



### ORIGINAL SOLÉ DIESEL METALLIC ENGINE PAINT

#### CHARACTERISTICS AND PART NUMBERS

| Capacity | Colour | Type  | Part number      |
|----------|--------|-------|------------------|
| 400 ml   | Blue   | Spray | <b>PINES400A</b> |
| 750 ml   | Blue   | Can   | <b>MPINA0750</b> |



### OIL EXTRACTION PUMP

Manual engine oil suction pump made of brass.

#### CHARACTERISTICS AND PART NUMBERS

| Litres | Part number       |
|--------|-------------------|
| A      | <b>147.14.001</b> |
| B      | <b>147.14.101</b> |



### ATF OIL

The ideal oil for automatic gearboxes or transmissions that require this type of oil. This oil contains additives that increase its anti-wear properties, excellent power transmission, and increase service life with superb resistance to ageing and deposit formation.

#### CHARACTERISTICS AND PART NUMBERS

| Litres | Part number     |
|--------|-----------------|
| 1      | <b>A0201000</b> |
| 5      | <b>A0205000</b> |

## antifreeze / coolant liquid



5 L



20 L

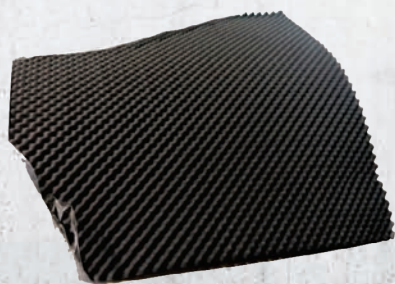


Specially developed for marine  
aluminium heat exchanger

## CHARACTERISTICS AND PART NUMBERS

| Litres                            | Part number     |
|-----------------------------------|-----------------|
| Antifreeze/Coolant Liquid 50% 5L  | <b>MA000001</b> |
| Antifreeze/Coolant Liquid 50% 20L | <b>MA000002</b> |

## insulation sound foam with adhesive



Based Polyurethane foam Ether 25kg/m<sup>2</sup>  
and about open cell structure  
Fire resistance: FMVSS302  
Sound absorption coefficient  
Weighted  $\bar{\alpha}_w$   
 $\bar{\alpha}_w = 0,45$  (H)  
Acoustic absorption type: D

Acoustic absorption type  
100 Hz --> 0,09  
500 Hz --> 0,38  
2500 Hz --> 0,73

## CHARACTERISTICS AND PART NUMBERS

| Litres                                                   | Part number     |
|----------------------------------------------------------|-----------------|
| Insulation sound foam with<br>adhesive 30 mm. 2 x 1 mtr. | <b>M0000007</b> |



The image features a technical drawing of a mechanical component, possibly a piston or a similar engine part, overlaid with a large blue rectangular area. The drawing includes various lines, dimensions, and hatching to indicate different materials or sections. The word "appendix." is written in white, bold, sans-serif font across the blue area. The background of the entire image is a textured, light gray surface.

**appendix.**

**8**

NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TEL: \_\_\_\_\_

FAX: \_\_\_\_\_

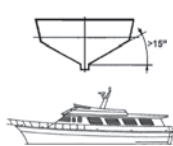
E-MAIL: \_\_\_\_\_

## principal features of the boat.

BRAND AND MODEL: \_\_\_\_\_

SHIPYARD: \_\_\_\_\_

### HULL TYPE

☐ Displacement    ☐ Semi-displacement    ☐ Sail boat    ☐ Planing hull    ☐ Catamaran    ☐ Barge


### HULL MATERIAL

☐ Steel    ☐ Fibreglass  
☐ Aluminium    ☐ Wood

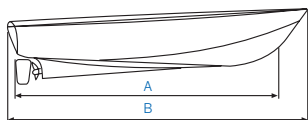
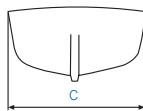
### SERVICE

☐ Passenger - pleasure  
☐ Heavy duty - commercial  
☐ Towing

### USE

☐ Offshore  
☐ Lake

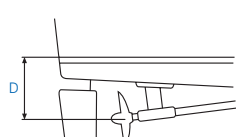
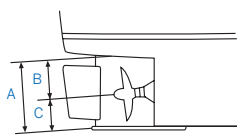
## dimensions.



m feet

A: Length waterline \_\_\_\_\_  B: Length overall \_\_\_\_\_  C: Beam \_\_\_\_\_ Full load displacement \_\_\_\_\_  Tm  kg

## stern geometry.



(Ø max.) A \_\_\_\_\_ mm

B \_\_\_\_\_ mm

C \_\_\_\_\_ mm

D \_\_\_\_\_ mm

Shaft angle: \_\_\_\_\_ °

## engine data - gearbox.

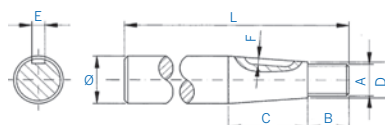
| N° motors | Brand | Model | Power | Rating | Gearbox red |
|-----------|-------|-------|-------|--------|-------------|
| _____     | _____ | _____ | _____ | _____  | _____ :1    |

## propeller data.

|         |                 |                                                              |
|---------|-----------------|--------------------------------------------------------------|
| CURRENT | N° blades _____ | Spin LH <input type="checkbox"/> RH <input type="checkbox"/> |
| DESIRED | N° blades _____ | Spin LH <input type="checkbox"/> RH <input type="checkbox"/> |

Diameter \_\_\_\_\_ Pitch \_\_\_\_\_

|   |       |    |
|---|-------|----|
| Ø | _____ | mm |
| A | _____ | mm |
| B | _____ | mm |
| C | _____ | mm |
| D | _____ | mm |
| E | _____ | mm |
| F | _____ | mm |



SOLÉ S.A.

C-2435, km 2

Apartado 15

08760 Martorell (Barcelona)

T. 93 775 14 00  
Fax 93 775 30 13http://www.solediesel.com  
propellers@solediesel.com



# double tapered shafts



NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

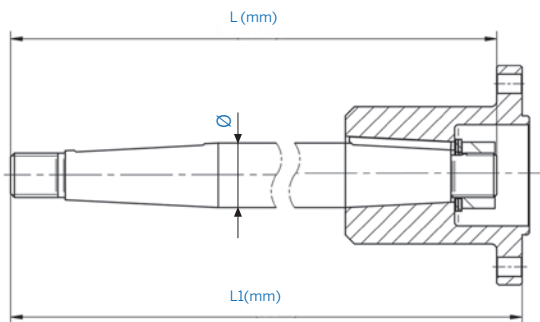
ADDRESS: \_\_\_\_\_

TEL: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

## shaft specifications.



L1: \_\_\_\_\_ mm

L1= DISTANCE BETWEEN THE COUPLING GEAR BOX  
AND THE END OF THE SHAFT

MARK Ø Ø (mm):

☐ 35    ☐ 40    ☐ 45    ☐ 50 6    ☐ 0

MATERIAL

QUANTITY

☐ Standard AISI \_\_\_\_\_

☐ AISI-329 \_\_\_\_\_

SHAFT SPIN

Mark material and shaft spin


☐ LH    ☐ RH

## gearbox specifications.

TYPE

- ☐ Angled  
☐ In line  
☐ V-shaped

Manufacturer \_\_\_\_\_

Model \_\_\_\_\_

SOLÉ DIESEL advises mounting a flexible coupler to solve possible problems with poor shaft alignment.

## DEFINITION OF SERVICE TYPES

**Recreational craft service:**

Very intermittent use, with a broad range of demands placed on the engine. The maximum rated power indicated is understood to be only for personal use of craft with a planing hull for which the operating time at the maximum rating is less than 10% of the total time. For the remaining time, the craft must be operated at a level equal to or less than 80% of its maximum rating. Mean limit of engine operating hours: - 500 hours/year for hydraulic gear boxes (TM). - 300 hours/year for mechanical gearboxes (TMC). Typical applications: Private, non-charter use, sporting/recreational activities.

**Intermediate Vservice:**

Intermittent use, with a broad range of demands placed on the engine. Mean limit of engine operating hours: 2000 hours/year. Typical applications: Private and charter use, sporting/recreational activities. Planing, semi-displacement and displacement hulls.

**Continuous service:**

Continuous use, with little or no variation in the power demands placed on the engine. Unlimited hours per year. Typical applications: Intensive use in fishing or commercial craft.

## IMPORTANT INFORMATION ABOUT THE APPLICATION

- Transmission ratios are based on the use of the gearbox in a system that is torsionally compatible with a torque coupler of suitable input.
- The ratio applies to diesel engines.
- Enquire with the factory about ratios that are applicable to petrol engines or other applications not included in the definition of a given service class.
- The ratios apply to right-turning engines (anticlockwise rotation of the flywheel when viewing the motor from the stern).
- The ratios are for full power in forward and reverse, unless otherwise indicated.
- The transmission ratios must be equal to or greater than those published for the engine for a given application. 1 kW = 1.34 HP.
- The data provided may be modified or corrected with no previous notice.

## RESPONSIBILITIES

Responsibility for assuring that the torsional compatibility of the propulsion system is satisfactory lies with the installer of the propulsion equipment. Twin Disc Technodrive accepts no liability for noise or malfunctioning in the gear box, in the flexible coupling or in the transmission parts that may be caused by this type of vibration.

For further information and assistance, contact Twin Disc Technodrive.

## MECHANICAL GEARBOXES PLEASURE

| Model    | Reduction ratios |         | Power rating/rpm |        | Max. power rating -kW (Hp) |           |           |      | Max. | (*) Weight |    | Adaptors/comments                                                    |
|----------|------------------|---------|------------------|--------|----------------------------|-----------|-----------|------|------|------------|----|----------------------------------------------------------------------|
|          | Forward          | Reverse | kW               | Hp     | @2800 rpm                  | @3000 rpm | @3600 rpm |      |      | kg         | lb |                                                                      |
| TMC40P   | 1.45             | 2.13    | 0.0099           | 0.0133 | 18 (24)                    | 23 (31)   | 26 (35)   | 4500 | 9    | 20         |    | SAE 5, BW                                                            |
|          | 2.00             | 2.13    | 0.0073           | 0.0098 | 13 (18)                    | 17 (23)   | 19 (25)   | 4500 |      |            |    | Max input power 26 KW                                                |
|          | 2.60             | 2.13    | 0.0052           | 0.0070 | 9 (13)                     | 12 (16)   | 14 (18)   | 4500 |      |            |    | Max power in reverse: 33% of listed ratings                          |
| TMC60P   | 1.55             | 2.00    | 0.0126           | 0.0169 | 23 (30)                    | 29 (39)   | 33 (44)   | 5000 | 14   | 31         |    | SAE 4, SAE 5, BW                                                     |
|          | 2.00             | 2.00    | 0.0115           | 0.0154 | 21 (28)                    | 26 (35)   | 30 (40)   | 5000 |      |            |    | Max input power 60 KW                                                |
|          | 2.45             | 2.45    | 0.0094           | 0.0126 | 17 (23)                    | 22 (29)   | 24 (33)   | 5000 |      |            |    | Max power in reverse: see note                                       |
|          | 2.83             | 2.45    | 0.0078           | 0.0105 | 14 (19)                    | 18 (24)   | 20 (27)   | 5000 |      |            |    |                                                                      |
| TMC 60 A | 2.00             | 2.17    | 0.0094           | 0.0126 | 17 (23)                    | 22 (49)   | 24 (33)   | 4500 | 14   | 31         |    | SAE 4, SAE 5, BW                                                     |
|          | 2.45             | 2.17    | 0.0094           | 0.0126 | 17 (23)                    | 22 (49)   | 24 (33)   | 4500 |      |            |    | Max input power 52 KW<br>Max power in reverse: 33% of listed ratings |
| TMC 260  | 1.54             | 2.00    | 0.0199           | 0.0267 | 36 (48)                    | 46 (61)   | 52 (69)   | 5000 | 18   | 40         |    | SAE 4, SAE 5, BW                                                     |
|          | 2.00             | 2.00    | 0.0199           | 0.0267 | 36 (48)                    | 46 (61)   | 52 (69)   | 5000 |      |            |    | Max input power 84 KW                                                |
|          | 2.47             | 2.47    | 0.0147           | 0.0197 | 26 (35)                    | 34 (45)   | 38 (51)   | 5000 |      |            |    | Max power in reverse: see note                                       |
|          | 2.88             | 2.47    | 0.0115           | 0.0154 | 21 (28)                    | 26 (35)   | 30 (40)   | 5000 |      |            |    |                                                                      |
| SPROP 60 | 2.15             | 2.15    | 0.0105           | 0.0140 | 46 (62)                    | 49 (66)   | 38 (51)   | 3000 | 35   |            |    | SAE 7" BW (ref. / part no. 24813501)                                 |

## MECHANICAL GEARBOXES INTERMEDIATE SERVICE

| Model    | Reduction ratios |         | Power rating/rpm |        | Max. power rating -kW (Hp) |           |           |      | Max. | (*) Weight |    | Adaptors/comments                                                    |
|----------|------------------|---------|------------------|--------|----------------------------|-----------|-----------|------|------|------------|----|----------------------------------------------------------------------|
|          | Forward          | Reverse | kW               | Hp     | @2800 rpm                  | @3000 rpm | @3600 rpm |      |      | kg         | lb |                                                                      |
| TMC40P   | 1.45             | 2.13    | 0.0108           | 0.0145 | 26 (35)                    | 26 (35)   | 26 (35)   | 4500 | 9    | 20         |    | SAE 5, BW                                                            |
|          | 2.00             | 2.13    | 0.0080           | 0.0107 | 21 (30)                    | 24 (32)   | 26 (35)   | 4500 |      |            |    | Max input power 26 KW                                                |
|          | 2.60             | 2.13    | 0.0064           | 0.0085 | 17 (24)                    | 19 (25)   | 22 (30)   | 4500 |      |            |    | Max power in reverse: 33% of listed ratings                          |
| TMC60E   | 1.55             | 2.00    | 0.0151           | 0.0202 | 42 (57)                    | 45 (61)   | 54 (73)   | 5000 | 14   | 31         |    | SAE 4, SAE 5, BW                                                     |
|          | 2.00             | 2.00    | 0.0133           | 0.0178 | 37 (50)                    | 40 (53)   | 48 (64)   | 5000 |      |            |    | Max input power 60 KW                                                |
|          | 2.45             | 2.45    | 0.0116           | 0.0155 | 32 (44)                    | 35 (47)   | 42 (56)   | 5000 |      |            |    | Max power in reverse: see note                                       |
|          | 2.83             | 2.45    | 0.0090           | 0.0121 | 25 (34)                    | 27 (36)   | 32 (43)   | 5000 |      |            |    |                                                                      |
| TMC 60 A | 2.00             | 2.17    | 0.0117           | 0.0156 | 32 (43)                    | 35 (47)   | 42 (56)   | 4500 | 14   | 31         |    | SAE 4, SAE 5, BW                                                     |
|          | 2.45             | 2.17    | 0.0117           | 0.0156 | 32 (43)                    | 35 (47)   | 42 (56)   | 4500 |      |            |    | Max input power 52 KW<br>Max power in reverse: 33% of listed ratings |
| TMC 260  | 1.54             | 2.00    | 0.0231           | 0.0310 | 65 (87)                    | 69 (93)   | 83 (111)  | 5000 | 18   | 40         |    | SAE 4, SAE 5, BW                                                     |
|          | 2.00             | 2.00    | 0.0231           | 0.0310 | 65 (87)                    | 69 (93)   | 83 (111)  | 5000 |      |            |    | Max input power 84 KW                                                |
|          | 2.47             | 2.47    | 0.0187           | 0.0251 | 52 (70)                    | 56 (75)   | 67 (90)   | 5000 |      |            |    | Max power in reverse: see note                                       |
|          | 2.88             | 2.47    | 0.0160           | 0.0214 | 45 (60)                    | 48 (64)   | 57 (77)   | 5000 |      |            |    |                                                                      |
| SPROP 60 | 2.15             | 2.15    | 0.0090           | 0.0121 | 38 (52)                    | 40 (55)   | 32 (43)   | 3000 | 35   |            |    | SAE 7" BW (ref. / part no. 24813501)                                 |

## Notes

- (\*) Weight without oil.  
 (1) The power rating given refers to forward gear. For reverse:  
 (2.1) TMC 60 E red. 1.55: 80% of the reduction ratio 2.00  
 (2.2) TMC 60 E red. 2.00 and 2.45: 80% of the value indicated  
 (2.3) TMC 60 E red. 2.83: 80% of the reduction ratio 2.50  
 (2.4) TMC 260 red. 1.54 and 2.00: 80% of the value indicated  
 (2.5) TMC 260 red. 2.47 and 2.88: 80% of the reduction ratio 2.47



## MECHANICAL GEARBOXES CONTINUOUS SERVICE

| Model    | Reduction ratios |         | Power rating/rpm |        | Max. power rating -kW (Hp) |           |           |      | Max. | (*) Weight |    | Adaptors/comments                                                    |
|----------|------------------|---------|------------------|--------|----------------------------|-----------|-----------|------|------|------------|----|----------------------------------------------------------------------|
|          | Forward          | Reverse | kW               | Hp     | @2800 rpm                  | @3000 rpm | @3600 rpm |      |      | kg         | lb |                                                                      |
| TMC40P   | 1,45             | 2,13    | 0,0099           | 0,0133 | 18 (24)                    | 23 (31)   | 26 (35)   | 4500 | 9    | 20         |    | SAE 5, BW                                                            |
|          | 2,00             | 2,13    | 0,0073           | 0,0098 | 13 (18)                    | 17 (23)   | 19 (25)   | 4500 |      |            |    | Max input power 26 KW                                                |
|          | 2,60             | 2,13    | 0,0052           | 0,0070 | 9 (13)                     | 12 (16)   | 14 (18)   | 4500 |      |            |    | Max power in reverse: 33% of listed ratings                          |
| TMC60E   | 1,55             | 2,00    | 0,0126           | 0,0169 | 23 (30)                    | 29 (39)   | 33 (44)   | 5000 | 14   | 31         |    | SAE 4, SAE 5, BW                                                     |
|          | 2,00             | 2,00    | 0,0115           | 0,0154 | 21 (28)                    | 26 (35)   | 30 (40)   | 5000 |      |            |    | Max input power 44 KW                                                |
|          | 2,45             | 2,45    | 0,0094           | 0,0126 | 17 (23)                    | 22 (29)   | 24 (33)   | 5000 |      |            |    | Max power in reverse: see note                                       |
|          | 2,83             | 2,45    | 0,0078           | 0,0105 | 14 (19)                    | 18 (24)   | 20 (27)   | 5000 |      |            |    |                                                                      |
| TMC 60 A | 2,00             | 2,17    | 0,0094           | 0,0126 | 17 (23)                    | 22 (49)   | 24 (33)   | 4500 | 14   | 31         |    | SAE 4, SAE 5, BW                                                     |
|          | 2,45             | 2,17    | 0,0094           | 0,0126 | 17 (23)                    | 22 (49)   | 24 (33)   | 4500 |      |            |    | Max input power 52 KW<br>Max power in reverse: 33% of listed ratings |
| TMC 260  | 1,54             | 2,00    | 0,0199           | 0,0267 | 36 (48)                    | 46 (61)   | 52 (69)   | 5000 | 18   | 40         |    | SAE 4, SAE 5, BW                                                     |
|          | 2,00             | 2,00    | 0,0199           | 0,0267 | 36 (48)                    | 46 (61)   | 52 (69)   | 5000 |      |            |    | Max input power 61 KW                                                |
|          | 2,47             | 2,47    | 0,0147           | 0,0197 | 26 (35)                    | 34 (45)   | 38 (51)   | 5000 |      |            |    | Max power in reverse: see note                                       |
|          | 2,88             | 2,47    | 0,0115           | 0,0154 | 21 (28)                    | 26 (35)   | 30 (40)   | 5000 |      |            |    |                                                                      |

## HYDRAULIC GEARBOXES PLEASURE

| Model           | Reduction ratios |         | Power rating/rpm |        | Max. power rating -kW (Hp) |           |           |      | Max. | (*) Weight |    | Adaptors/comments                                                                          |
|-----------------|------------------|---------|------------------|--------|----------------------------|-----------|-----------|------|------|------------|----|--------------------------------------------------------------------------------------------|
|                 | Forward          | Reverse | kW               | Hp     | @2800 rpm                  | @3000 rpm | @3600 rpm |      |      | kg         | lb |                                                                                            |
| TM345           | 1,54             | 1,54    | 0,0361           | 0,0484 | 94 126                     | 101 135   | 110 147   | 4500 | 25   | 55         |    | SAE 3, 4, 5, BW<br>max input power 110 kw                                                  |
|                 | 2,00             | 2,00    | 0,0293           | 0,0393 | 76 102                     | 82 110    | 97 130    |      |      |            |    |                                                                                            |
|                 | 2,47             | 2,47    | 0,0220           | 0,0295 | 57 77                      | 62 83     | 73 97     |      |      |            |    |                                                                                            |
| TM345A<br>(8°)  | 1,54             | 1,54    | 0,0361           | 0,0484 | 94 126                     | 101 135   | 110 147   | 4500 | 25   | 55         |    |                                                                                            |
|                 | 2,00             | 2,00    | 0,0293           | 0,0393 | 76 102                     | 82 110    | 97 130    |      |      |            |    |                                                                                            |
|                 | 2,47             | 2,47    | 0,0220           | 0,0295 | 57 77                      | 62 83     | 73 97     |      |      |            |    |                                                                                            |
| TM93            | 1,51             | 1,51    | 0,0534           | 0,0716 | 139 186                    | 150 200   | 176 236   | 4500 | 53   | 117        |    | SAE 3, 4, YANMAR LH, BW<br>max input power 184 kw                                          |
|                 | 2,09             | 2,09    | 0,0461           | 0,0618 | 120 161                    | 129 173   | 152 204   |      |      |            |    |                                                                                            |
|                 | 2,40             | 2,40    | 0,0408           | 0,0547 | 106 142                    | 114 153   | 135 180   |      |      |            |    |                                                                                            |
|                 | 2,77             | 2,77    | 0,0356           | 0,0477 | 93 124                     | 100 134   | 117 157   |      |      |            |    |                                                                                            |
| TM93A<br>(8°)   | 1,51             | 1,51    | 0,0492           | 0,0659 | 128 171                    | 138 185   | 162 218   | 4500 | 53   | 117        |    |                                                                                            |
|                 | 2,09             | 2,09    | 0,0408           | 0,054  | 106 142                    | 114 153   | 135 180   |      |      |            |    |                                                                                            |
|                 | 2,40             | 2,40    | 0,0356           | 0,0477 | 93 124                     | 100 134   | 117 157   |      |      |            |    |                                                                                            |
| TM485A1<br>(8°) | 1,51             | 1,51    | 0,0500           | 0,0670 | 130 174                    | 140 188   | 165 221   | 4500 | 36   | 79         |    | SAE 3, 4, YANMAR 1 LH, BW<br>max input power 210 kw                                        |
|                 | 2,09             | 2,09    | 0,0500           | 0,0670 | 130 174                    | 140 188   | 165 221   |      |      |            |    |                                                                                            |
|                 | 2,40             | 2,40    | 0,0438           | 0,0587 | 114 153                    | 123 164   | 145 194   |      |      |            |    |                                                                                            |
| TM170           | 1,50             | 1,50    | 0,0785           | 0,1052 | 204 273                    | 220 295   | 257 344   | 4000 | 75   | 165        |    | SAE 3, 4, YANMAR LH, BW<br>max input power<br>r 1,50 / 2,04 257 kw<br>r 2,50 / 2,94 220 kw |
|                 | 2,04             | 2,04    | 0,0785           | 0,1052 | 204 273                    | 220 295   | 257 34    |      |      |            |    |                                                                                            |
|                 | 2,50             | 2,50    | 0,0628           | 0,0842 | 163 219                    | 176 236   | 207 278   |      |      |            |    |                                                                                            |
|                 | 2,94             | 2,94    | 0,0534           | 0,0716 | 139 186                    | 150 200   | 176 236   |      |      |            |    |                                                                                            |
| TM170A<br>(10°) | 1,53             | 1,53    | 0,0785           | 0,1052 | 204 273                    | 220 295   | 157 344   | 4000 | 75   | 165        |    | max input power<br>r 1,53 / 2,08 257 kw<br>r 2,60 220 kw                                   |
|                 | 2,08             | 2,08    | 0,0785           | 0,1052 | 204 273                    | 220 295   | 157 344   |      |      |            |    |                                                                                            |
|                 | 2,60             | 2,60    | 0,0628           | 0,0842 | 163 219                    | 176 236   | 207 278   |      |      |            |    |                                                                                            |
| TM880A<br>(10°) | 1,53             | 1,53    | 0,0921           | 0,1234 | 239 321                    | 258 346   | 295 395   | 4000 | 54   | 119        |    | SAE 3, 4, YANMAR LH, BW<br>max input power 295 kw                                          |
|                 | 2,08             | 2,08    | 0,0921           | 0,1234 | 239 321                    | 258 346   | 295 395   |      |      |            |    |                                                                                            |
|                 | 2,60             | 2,60    | 0,0628           | 0,0842 | 163 219                    | 176 236   | 207 278   |      |      |            |    |                                                                                            |
| TM265           | 1,17             | 1,17    | 0,1109           | 0,1486 | 288 386                    | 311 416   |           | 3000 | 165  | 364        |    | SAE 1, 2, 3                                                                                |
|                 | 1,50             | 1,50    | 0,1109           | 0,1486 | 288 386                    | 311 416   |           |      |      |            |    |                                                                                            |
|                 | 2,09             | 2,09    | 0,1109           | 0,1486 | 288 386                    | 311 416   |           |      |      |            |    |                                                                                            |
|                 | 2,82             | 2,82    | 0,1109           | 0,1486 | 288 386                    | 311 416   |           |      |      |            |    |                                                                                            |
| TM265A<br>(7°)  | 1,44             | 1,44    | 0,1109           | 0,1486 | 288 386                    | 311 416   |           | 3000 | 165  | 364        |    |                                                                                            |
|                 | 2,00             | 2,00    | 0,1026           | 0,1375 | 267 357                    | 287 385   |           |      |      |            |    |                                                                                            |
|                 | 2,30             | 2,30    | 0,0932           | 0,1249 | 242 325                    | 261 350   |           |      |      |            |    |                                                                                            |
| TM200           | 3,60             | 3,60    |                  |        |                            |           |           | 3000 | 235  | 518        |    | SAE 1, 2, 3                                                                                |
|                 | 4,48             | 4,48    |                  |        |                            |           |           |      |      |            |    |                                                                                            |
| TM360           | 3,00             | 3,00    |                  |        |                            |           |           | 2600 | 415  | 915        |    | SAE 1, 2, 3                                                                                |
|                 | 3,50             | 3,50    |                  |        |                            |           |           |      |      |            |    |                                                                                            |
|                 | 4,00             | 4,00    |                  |        |                            |           |           |      |      |            |    |                                                                                            |
|                 | 5,00             | 5,00    |                  |        |                            |           |           |      |      |            |    |                                                                                            |
| TM1200A<br>(7°) | 1,44             | 1,44    | 0,1461           | 0,1957 | 380 509                    | 409 548   |           | 3200 | 115  | 253        |    | SAE 1, 2, 3                                                                                |
|                 | 2,00             | 2,00    | 0,1461           | 0,1957 | 380 509                    | 409 548   |           |      |      |            |    |                                                                                            |
|                 | 2,30             | 2,30    | 0,1250           | 0,1675 | 325 435                    | 469 469   |           |      |      |            |    |                                                                                            |

## HYDRAULIC GEARBOXES INTERMEDIATE SERVICE

| Model           | Reduction ratios |         | Power rating/rpm |        | Max. power rating -kW (Hp) |     |           |     |           |     | Max. | (*) Weight |     | Adaptors/comments                                 |
|-----------------|------------------|---------|------------------|--------|----------------------------|-----|-----------|-----|-----------|-----|------|------------|-----|---------------------------------------------------|
|                 | Forward          | Reverse | kW               | Hp     | @2800 rpm                  |     | @3000 rpm |     | @3600 rpm |     |      | kg         | lb  |                                                   |
| TM345           | 1,54             | 1,54    | 0,0225           | 0,0302 | 47                         | 63  | 56        | 75  | 63        | 84  | 4500 | 25         | 55  | SAE 3, 4, 5, BW                                   |
|                 | 2,00             | 2,00    | 0,0225           | 0,0302 | 47                         | 63  | 56        | 75  | 63        | 84  |      |            |     |                                                   |
|                 | 2,47             | 2,47    | 0,0167           | 0,0224 | 35                         | 47  | 42        | 56  | 47        | 63  |      |            |     |                                                   |
| TM345A<br>(8°)  | 1,54             | 1,54    | 0,0225           | 0,0302 | 47                         | 63  | 56        | 75  | 63        | 84  | 4500 | 25         | 55  |                                                   |
|                 | 2,00             | 2,00    | 0,0225           | 0,0302 | 47                         | 63  | 56        | 75  | 63        | 84  |      |            |     |                                                   |
|                 | 2,47             | 2,47    | 0,0167           | 0,0224 | 435                        | 47  | 42        | 56  | 47        | 63  |      |            |     |                                                   |
| TM93            | 1,51             | 1,51    | 0,0443           | 0,0594 | 93                         | 125 | 111       | 148 | 124       | 166 | 4500 | 53         | 117 | SAE 3, 4, YANMAR LH, BW<br>max input power 184 kw |
|                 | 2,09             | 2,09    | 0,0383           | 0,0513 | 80                         | 108 | 96        | 128 | 107       | 144 |      |            |     |                                                   |
|                 | 2,40             | 2,40    | 0,0339           | 0,0454 | 71                         | 95  | 85        | 114 | 95        | 127 |      |            |     |                                                   |
|                 | 2,77             | 2,77    | 0,0295           | 0,0395 | 62                         | 83  | 74        | 99  | 83        | 111 |      |            |     |                                                   |
| TM93A<br>(8°)   | 1,51             | 1,51    | 0,0377           | 0,0505 | 79                         | 106 | 94        | 126 | 106       | 141 | 4500 | 53         | 117 |                                                   |
|                 | 2,09             | 2,09    | 0,0314           | 0,0421 | 66                         | 88  | 79        | 105 | 88        | 118 |      |            |     |                                                   |
|                 | 2,40             | 2,40    | 0,0272           | 0,0364 | 57                         | 77  | 68        | 91  | 76        | 102 |      |            |     |                                                   |
| TM485A1<br>(8°) | 1,51             | 1,51    | 0,0386           | 0,0517 | 81                         | 109 | 96        | 129 | 108       | 145 | 4500 | 36         | 79  | SAE 3, 4, YANMAR 1 LH, BW                         |
|                 | 2,09             | 2,09    | 0,0386           | 0,0517 | 81                         | 109 | 96        | 129 | 108       | 145 |      |            |     |                                                   |
|                 | 2,40             | 2,40    | 0,0329           | 0,0440 | 69                         | 92  | 83        | 110 | 92        | 123 |      |            |     |                                                   |
| TM170           | 1,50             | 1,50    | 0,0636           | 0,0852 | 134                        | 179 | 159       | 213 | 178       | 239 | 4000 | 75         | 165 | SAE 3, 4, YANMAR LH, BW                           |
|                 | 2,04             | 2,04    | 0,0636           | 0,0852 | 134                        | 179 | 159       | 213 | 178       | 239 |      |            |     |                                                   |
|                 | 2,50             | 2,50    | 0,0509           | 0,0682 | 107                        | 143 | 127       | 171 | 143       | 191 |      |            |     |                                                   |
|                 | 2,94             | 2,94    | 0,0441           | 0,0591 | 93                         | 124 | 110       | 148 | 123       | 165 |      |            |     |                                                   |
| TM170A<br>(10°) | 1,53             | 1,53    | 0,0597           | 0,0800 | 125                        | 168 | 149       | 200 | 167       | 224 | 4000 | 75         | 165 |                                                   |
|                 | 2,08             | 2,08    | 0,0597           | 0,0800 | 125                        | 168 | 149       | 200 | 167       | 224 |      |            |     |                                                   |
|                 | 2,60             | 2,60    | 0,0471           | 0,0631 | 99                         | 133 | 118       | 158 | 132       | 177 |      |            |     |                                                   |
| TM880A<br>(10°) | 1,53             | 1,53    | 0,0700           | 0,0938 | 147                        | 197 | 175       | 235 | 196       | 263 | 4000 | 54         | 119 | SAE 3, 4, YANMAR LH, BW                           |
|                 | 2,08             | 2,08    | 0,0700           | 0,0938 | 147                        | 197 | 175       | 235 | 196       | 263 |      |            |     |                                                   |
|                 | 2,60             | 2,60    | 0,0471           | 0,0631 | 99                         | 135 | 118       | 160 | 132       | 179 |      |            |     |                                                   |
| TM265           | 1,17             | 1,17    | 0,0985           | 0,1320 | 207                        | 277 | 246       | 330 | 276       | 370 | 3000 | 165        | 364 | SAE 1, 2, 3                                       |
|                 | 1,50             | 1,50    | 0,0985           | 0,1320 | 207                        | 277 | 246       | 330 | 276       | 370 |      |            |     |                                                   |
|                 | 2,09             | 2,09    | 0,0985           | 0,1320 | 207                        | 277 | 246       | 330 | 276       | 370 |      |            |     |                                                   |
|                 | 2,82             | 2,82    | 0,0985           | 0,1320 | 207                        | 277 | 246       | 330 | 276       | 370 |      |            |     |                                                   |
| TM265A<br>(7°)  | 1,44             | 1,44    | 0,0984           | 0,1319 | 207                        | 277 | 246       | 330 | 276       | 369 | 3000 | 165        | 364 |                                                   |
|                 | 2,00             | 2,00    | 0,0911           | 0,1221 | 191                        | 256 | 228       | 305 | 255       | 342 |      |            |     |                                                   |
|                 | 2,30             | 2,30    | 0,0827           | 0,1108 | 174                        | 233 | 207       | 277 | 232       | 310 |      |            |     |                                                   |
| TM200           | 3,60             | 3,60    |                  |        |                            |     |           |     |           |     | 3000 | 235        | 518 | SAE 1, 2, 3                                       |
|                 | 4,48             | 4,48    |                  |        |                            |     |           |     |           |     |      |            |     |                                                   |
| TM360           | 3,00             | 3,00    |                  |        |                            |     |           |     |           |     | 2600 | 415        | 915 | SAE 1, 2, 3                                       |
|                 | 3,50             | 3,50    |                  |        |                            |     |           |     |           |     |      |            |     |                                                   |
|                 | 4,00             | 4,00    |                  |        |                            |     |           |     |           |     |      |            |     |                                                   |
|                 | 5,00             | 5,00    |                  |        |                            |     |           |     |           |     |      |            |     |                                                   |
| TM1200A<br>(7°) | 1,44             | 1,44    | 0,1284           | 0,1721 | 269                        | 361 | 320       | 430 | 359       | 482 | 3200 | 115        | 253 | SAE 1, 2, 3                                       |
|                 | 2,00             | 2,00    | 0,1284           | 0,1721 | 269                        | 361 | 320       | 430 | 359       | 482 |      |            |     |                                                   |
|                 | 2,30             | 2,30    | 0,1096           | 0,1469 | 230                        | 308 | 274       | 367 | 307       | 411 |      |            |     |                                                   |



## HYDRAULIC GEARBOXES CONTINUOUS SERVICE

| Model           | Reduction ratios |         | Power rating/rpm |        | Max. power rating -kW (Hp) |           |           |     |     |     | Max. | (*) Weight |     | Adaptors/comments         |
|-----------------|------------------|---------|------------------|--------|----------------------------|-----------|-----------|-----|-----|-----|------|------------|-----|---------------------------|
|                 | Forward          | Reverse | kW               | Hp     | @2800 rpm                  | @3000 rpm | @3600 rpm |     |     |     |      | kg         | lb  |                           |
| TM345           | 1,54             | 1,54    | 0,0194           | 0,0260 | 35                         | 47        | 41        | 55  | 47  | 62  | 4500 | 25         | 55  | SAE 3, 4, 5, BW           |
|                 | 2,00             | 2,00    | 0,0194           | 0,0260 | 35                         | 47        | 41        | 55  | 47  | 62  |      |            |     |                           |
|                 | 2,47             | 2,47    | 0,0147           | 0,0197 | 26                         | 35        | 31        | 41  | 35  | 47  |      |            |     |                           |
| TM345A<br>(8°)  | 1,54             | 1,54    | 0,0194           | 0,0260 | 35                         | 47        | 41        | 55  | 47  | 62  | 4500 | 25         | 55  |                           |
|                 | 2,00             | 2,00    | 0,0194           | 0,0260 | 35                         | 47        | 41        | 55  | 47  | 62  |      |            |     |                           |
|                 | 2,47             | 2,47    | 0,0147           | 0,0197 | 26                         | 35        | 31        | 41  | 35  | 47  |      |            |     |                           |
| TM93            | 1,51             | 1,51    | 0,0408           | 0,0547 | 73                         | 98        | 86        | 115 | 98  | 131 | 4500 | 53         | 117 | SAE 3, 4, YANMAR LH, BW   |
|                 | 2,09             | 2,09    | 0,0356           | 0,0477 | 64                         | 86        | 75        | 100 | 85  | 114 |      |            |     |                           |
|                 | 2,40             | 2,40    | 0,0319           | 0,0427 | 57                         | 77        | 67        | 90  | 77  | 103 |      |            |     |                           |
|                 | 2,77             | 2,77    | 0,0277           | 0,0371 | 50                         | 67        | 58        | 78  | 66  | 89  |      |            |     |                           |
| TM93A<br>(8°)   | 1,51             | 1,51    | 0,0261           | 0,0350 | 47                         | 63        | 55        | 73  | 63  | 84  | 4500 | 53         | 117 |                           |
|                 | 2,09             | 2,09    | 0,0216           | 0,0289 | 39                         | 52        | 45        | 31  | 52  | 69  |      |            |     |                           |
|                 | 2,40             | 2,40    | 0,0189           | 0,0253 | 34                         | 46        | 40        | 53  | 45  | 61  |      |            |     |                           |
| TM485A1<br>(8°) | 1,51             | 1,51    | 0,0328           | 0,0439 | 59                         | 79        | 69        | 92  | 78  | 105 | 4500 | 36         | 79  | SAE 3, 4, YANMAR 1 LH, BW |
|                 | 2,09             | 2,09    | 0,0328           | 0,0439 | 59                         | 79        | 69        | 92  | 78  | 105 |      |            |     |                           |
|                 | 2,40             | 2,40    | 0,0289           | 0,0387 | 52                         | 70        | 61        | 81  | 69  | 93  |      |            |     |                           |
| TM170           | 1,50             | 1,50    | 0,0576           | 0,0772 | 104                        | 139       | 121       | 162 | 138 | 185 | 4000 | 75         | 165 | SAE 3, 4, YANMAR LH, BW   |
|                 | 2,04             | 2,04    | 0,0576           | 0,0772 | 104                        | 139       | 121       | 162 | 138 | 185 |      |            |     |                           |
|                 | 2,50             | 2,50    | 0,0461           | 0,0618 | 83                         | 11        | 97        | 130 | 111 | 148 |      |            |     |                           |
|                 | 2,94             | 2,94    | 0,0398           | 0,0533 | 72                         | 96        | 84        | 112 | 96  | 128 |      |            |     |                           |
| TM170A<br>(10°) | 1,53             | 1,53    | 0,0416           | 0,0557 | 75                         | 100       | 87        | 117 | 100 | 134 | 4000 | 75         | 165 |                           |
|                 | 2,08             | 2,08    | 0,0416           | 0,0557 | 75                         | 100       | 87        | 117 | 100 | 134 |      |            |     |                           |
|                 | 2,60             | 2,60    | 0,0333           | 0,0446 | 60                         | 80        | 70        | 94  | 80  | 107 |      |            |     |                           |
| TM880A<br>(10°) | 1,53             | 1,53    | 0,0583           | 0,0781 | 105                        | 141       | 122       | 164 | 140 | 187 | 4000 | 54         | 119 | SAE 3, 4, YANMAR LH, BW   |
|                 | 2,08             | 2,08    | 0,0583           | 0,0781 | 105                        | 141       | 122       | 164 | 140 | 187 |      |            |     |                           |
|                 | 2,60             | 2,60    | 0,0333           | 0,0446 | 60                         | 82        | 70        | 95  | 80  | 109 |      |            |     |                           |
| TM265           | 1,17             | 1,17    | 0,0869           | 0,1164 | 156                        | 210       | 182       | 245 | 209 | 279 | 3000 | 165        | 364 | SAE 1, 2, 3               |
|                 | 1,50             | 1,50    | 0,0869           | 0,1164 | 156                        | 210       | 182       | 245 | 209 | 279 |      |            |     |                           |
|                 | 2,09             | 2,09    | 0,0869           | 0,1164 | 156                        | 210       | 182       | 245 | 209 | 279 |      |            |     |                           |
|                 | 2,82             | 2,82    | 0,0869           | 0,1164 | 156                        | 210       | 182       | 245 | 209 | 279 |      |            |     |                           |
| TM265A<br>(7°)  | 1,44             | 1,44    | 0,0588           | 0,0788 | 106                        | 142       | 123       | 165 | 141 | 189 | 3000 | 165        | 364 |                           |
|                 | 2,00             | 2,00    | 0,0544           | 0,0729 | 98                         | 131       | 114       | 153 | 131 | 175 |      |            |     |                           |
|                 | 2,30             | 2,30    | 0,0494           | 0,0662 | 89                         | 119       | 104       | 139 | 119 | 159 |      |            |     |                           |
| TM200           | 3,60             | 3,60    | 0,0639           | 0,0856 | 115                        | 154       | 134       | 180 | 153 | 206 | 3000 | 235        | 518 | SAE 1, 2, 3               |
|                 | 4,48             | 4,48    | 0,0639           | 0,0856 | 115                        | 154       | 134       | 180 | 153 | 206 |      |            |     |                           |
| TM360           | 3,00             | 3,00    | 0,1235           | 0,1655 | 222                        | 298       | 259       | 348 | 296 | 397 | 2600 | 415        | 915 | SAE 1, 2, 3               |
|                 | 3,50             | 3,50    | 0,1235           | 0,1655 | 222                        | 298       | 259       | 348 | 296 | 397 |      |            |     |                           |
|                 | 4,00             | 4,00    | 0,1235           | 0,1655 | 222                        | 298       | 259       | 348 | 296 | 397 |      |            |     |                           |
|                 | 5,00             | 5,00    | 0,1235           | 0,1655 | 222                        | 298       | 259       | 348 | 296 | 397 |      |            |     |                           |
| TM1200A<br>(7°) | 1,44             | 1,44    | 0,0949           | 0,1272 | 170                        | 228       | 199       | 267 | 228 | 305 | 3200 | 115        | 253 | SAE 1, 2, 3               |
|                 | 2,00             | 2,00    | 0,0949           | 0,1272 | 170                        | 228       | 199       | 267 | 228 | 305 |      |            |     |                           |
|                 | 2,30             | 2,30    | 0,0801           | 0,1073 | 144                        | 193       | 168       | 225 | 192 | 257 |      |            |     |                           |

## notes



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