

Hydra Drive Diesel



2008-2009

Hydra Drive



The HYDRA DRIVE diesel line-up. All the turnkey pleasure and reliability from Yamaha ... but inside.



Welcome to the world of YAMAHA, where unmatched experience in the manufacture of marine engines, combines with a unique track record of technical innovation spanning many decades, resulting in a solid line-up of diesel engines and drives.

One reason will be the impressively smooth, quiet and supremely reliable performance of the YAMAHA diesel engine, but it is the advanced HYDRA drive unit which will probably grab your attention first time out! When so many others are tough and awkward to control, often with noisy and imprecise gear selection, the incredible smoothness, ease and accuracy of shifting through Forward, Neutral and Reverse with the HYDRA DRIVE will come as a revelation!

Add to that a choice of seven engine/drive combinations and power delivery that starts at 165hp (123kW) and can run up to 630hp (470kW) with a twin installation, and this is today's power package of choice. Welcome to the quiet, smooth and reliable inside world of YAMAHA HYDRA DRIVE.

Hydra Drive Engine



The ultimate diesel package from Yamaha.

Yamaha is known all over the world for the reliability of its marine engineering and the reputation that stands behind the name is legendary. The YAMAHA HYDRA DRIVE line up brings you unmatched quality, and is designed to deliver a level of performance that will satisfy even the most demanding user.

All HYDRA DRIVE marine diesels are equipped with a closed-circuit cooling water system. The stable engine temperature required for smooth, reliable running is achieved by filling the system with a special coolant that also protects the engine during winter periods and extends its life.

The seawater pump (1) and intake water filter (2) with retractable stainless steel insert for easy checking and servicing, are both engine-mounted. A seawater flow sensor (3) detects any blockage of the cooling water intake or a failure of the seawater pump, before major engine damage can occur. Constant and reliable fuel pressure is supplied by the rotary injection pump (4) and a

combined engine-mounted fuel filter and water separator (5) ensures clean fuel under all conditions. The fuel filter is fitted with a sensor (6) to detect any water contamination and a dashboard lamp warns the operator if such a condition occurs. All these engines come with a powerful 80 Amp alternator (7) to maintain the batteries in perfect condition at all times. Thanks to the smooth hydraulic shifting of the HYDRA drive unit and the precision of its light, effortless power steering system, you are always in total control

The position or specification of some features may vary between models. The illustration shows the YAMAHA HYDRA DRIVE ME 432 as an example.

Hydra Drive



A whole new driving experience.

The YAMAHA HYDRA DRIVE features a compact, hydraulically operated multi-plate clutch system. Which offers a whole new level of precise, quiet and smooth shifting action, especially when manoeuvring or docking. For maximum performance and comfortable "no-torque" steering control choose the TRP version. The TRP, with twin counter-rotating propellers, can be specified for any Hydra Drive installation. With the twin installation you will also appreciate the single button trim, which is a special feature of the Yamaha dual remote control unit.

| HYDRA DRIVE UNIT | SINGLE PROPELLER | TRP (TWIN PROPELLERS) |
|----------------------------|---|---|
| ENGINE APPLICATION | ME 372 • ME 422 • ME 422HO | ME 372 • ME 422 • ME 422HO • ME 432 • ME 432HO |
| SHIFT TYPE | Hydraulic multi-plate clutch system | Hydraulic multi-plate clutch system |
| GEAR RATIO | 1.50:1 | ME 372/ME 422: 1.78:1 • ME 422HO/ME 432: 1.68:1 |
| MAXIMUM PROPELLER DIAMETER | 18" | 17" |
| PROPELLER PITCH RANGE | 13-15-17-19-21-23 | 20-21-22-23-24-26-28-30 |
| PROPELLER | Stainless steel | Stainless steel |
| PROPELLER ROTATION | Left or right hand (adjustable on engine) | Twin counter-rotating propellers |
| TRIM RANGE | -6° to + 15° on a 13° transom | -6° to + 15° on a 13° transom |
| TILT RANGE | 46.5° | 46.5° |
| STEERING | Hydraulic (power-assisted) | Hydraulic (power-assisted) |
| STEERING ANGLE | 60° | 60° |
| CORROSION PROTECTION | 1-Anode | 2-Anodes |
| WEIGHT - HYDRA DRIVE UNIT | 55kg | 61kg |
| WEIGHT - INTERMEDIATE | 46kg | 46kg |

ME 372



Our smallest engine packs a big punch!

Available with a single propeller unit or the HYDRA TRP drive option with twin counter-rotating propellers, the HYDRA DRIVE ME 372 is ideal for the smaller cruising boat or sports boat. This power-packed engine will deliver a smooth and impressively quiet 165hp (123kW) with incredible levels of reliability and fuel economy for long periods of continuous running.

AVAILABLE DRIVES



TECHNICAL SPECIFICATIONS

ENGINE MODEL

ME 372

MAXIMUM OUTPUT AT CRANKSHAFT - ISO 3046-1

123kW/3400rpm (165hp)

CYLINDERS

In-line 4 cylinder

DISPLACEMENT litres (cu in)

3.66 (223)

BORE x STROKE mm (ins)

102 x 112 (4.02 x 4.41)

MAXIMUM MATCHING RPM

3470-3570

VALVE ARRANGEMENT

8 Overhead Valve

FUEL SYSTEM

Direct injection • High-pressure rotary pump

FUEL FILTER/ WATER SEPARATOR

Standard • Water contamination warning

ASPIRATION

Turbo Charged • Aftercooler

COOLING

Closed circuit • Integrated heat exchanger

SEA WATER PUMP

Mounted on engine (gear driven)

SEA WATER FILTER

Standard

BATTERY CHARGING

High output (80 Amp) alternator

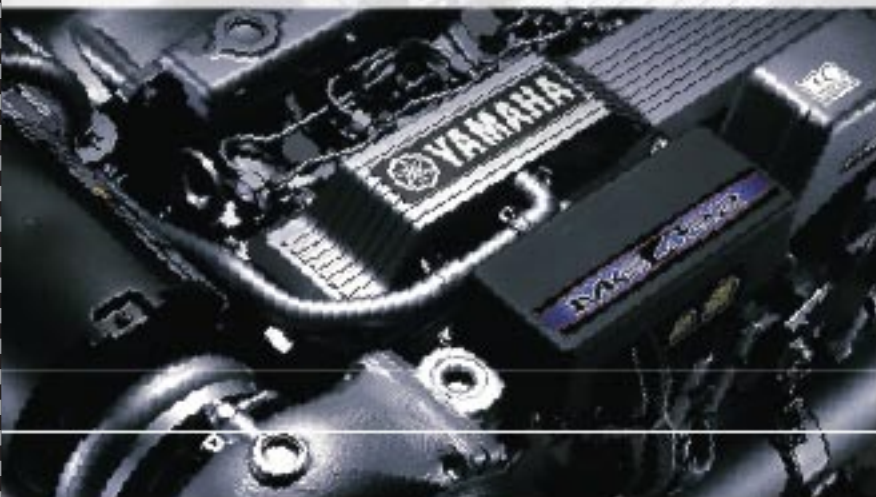
EXHAUST SYSTEM

Through propeller hub

WEIGHT - TOTAL PACKAGE (dry)

Single prop - 471kg • TRP - 477kg

ME 422



When strength and endurance are the main priority!

Like every YAMAHA HYDRA DRIVE, this 4.2 litre, 6-cylinder powerhouse has a reputation for exceptional economy and quiet reliability during extended periods of continuous running. The 245hp (183kW) power output makes the HYDRA DRIVE ME 422 ideal for any boat where tough and demanding sea conditions are regularly the order of the day ... Choose TRP or single-prop drive.

AVAILABLE DRIVES



TECHNICAL SPECIFICATIONS

ENGINE MODEL

ME 422

MAXIMUM OUTPUT AT CRANKSHAFT - ISO 3046-1

183kW/3800rpm (245hp)

CYLINDERS

In-line 6 cylinder

DISPLACEMENT litres (cu in)

4.16 (254)

BORE x STROKE mm (ins)

94 x 100 (3.70 x 3.94)

MAXIMUM MATCHING RPM

3880-3980

VALVE ARRANGEMENT

12-Valve Overhead Camshaft

FUEL SYSTEM

Direct injection • High-pressure rotary pump

FUEL FILTER/ WATER SEPARATOR

Standard • Water contamination warning

ASPIRATION

Turbo Charged • Aftercooler

COOLING

Closed circuit • Integrated heat exchanger

SEA WATER PUMP

Mounted on engine (gear driven)

SEA WATER FILTER

Standard

BATTERY CHARGING

High Output (80 Amp) alternator

EXHAUST SYSTEM

Through propeller hub

WEIGHT - TOTAL PACKAGE (dry)

Single prop - 551kg • TRP - 557kg

ME 422 High Output



All the power and trouble free performance of the ME 422 ... and more!

The HYDRA DRIVE ME 422HO delivers 275hp (205kW) and is the perfect choice for RIB's, sports boat's or small cruiser's where the ultimate smooth, powerful and reliable performance really counts. The ME 422HO is available with both the single propeller Hydra drive unit and the twin counter-rotating propeller TRP drive option.

AVAILABLE DRIVES



TECHNICAL SPECIFICATIONS

| ENGINE MODEL | ME 422 High Output |
|---|--|
| MAXIMUM OUTPUT AT CRANKSHAFT - ISO 3046-1 | 205kW/3800rpm (275hp) |
| CYLINDERS | In-line 6 cylinder |
| DISPLACEMENT litres (cu in) | 4.16 (254) |
| BORE x STROKE mm (ins) | 94 x 100 (3.70 x 3.94) |
| MAXIMUM MATCHING RPM | 3880-3980 |
| VALVE ARRANGEMENT | 12-Valve Overhead Camshaft |
| FUEL SYSTEM | Direct injection • High-pressure rotary pump |
| FUEL FILTER/ WATER SEPARATOR | Standard • Water contamination warning |
| ASPIRATION | Turbo Charged • Aftercooler |
| COOLING | Closed circuit • Integrated heat exchanger |
| SEA WATER PUMP | Mounted on engine (gear driven) |
| SEA WATER FILTER | Standard |
| BATTERY CHARGING | High Output (80 Amp) alternator |
| EXHAUST SYSTEM | Through propeller hub |
| WEIGHT - TOTAL PACKAGE (dry) | Single prop - 551kg • TRP - 557kg |

ME 432



As reliable as it gets!

A great choice for the larger cruising or sports boat, the HYDRA DRIVE ME 432 will provide many years of reliable service. The powerful 285hp (213kW) engine features a 24-valve OHC (Overhead Camshaft) configuration, with after-cooled turbo charging and the HYDRA TRP drive. The ME 432 can be supplied with a choice of propeller types and remote control units to suit any application.

AVAILABLE DRIVES



TECHNICAL SPECIFICATIONS

| ENGINE MODEL | ME 432 |
|---|--|
| MAXIMUM OUTPUT AT CRANKSHAFT - ISO 3046-1 | 213kW/3600rpm (285hp) |
| CYLINDERS | In-line 6 cylinder |
| DISPLACEMENT litres (cu in) | 4.16 (254) |
| BORE x STROKE mm (ins) | 94 x 100 (3.70 x 3.94) |
| MAXIMUM MATCHING RPM | 3720-3820 |
| VALVE ARRANGEMENT | 24-Valve Overhead Camshaft |
| FUEL SYSTEM | Direct injection • High-pressure rotary pump |
| FUEL FILTER/ WATER SEPARATOR | Standard • Water contamination warning |
| ASPIRATION | Turbo Charged • Aftercooler |
| COOLING | Closed circuit • Integrated heat exchanger |
| SEA WATER PUMP | Mounted on engine (gear driven) |
| SEA WATER FILTER | Standard |
| BATTERY CHARGING | High Output (80 Amp) alternator |
| EXHAUST SYSTEM | Through propeller hub |
| WEIGHT - TOTAL PACKAGE (dry) | TRP - 567kg |

ME 432 High Output



The powerful one!

Featuring the same high-tech 24-valve OHC (Overhead Camshaft) configuration as the ME 432 the impressive HYDRA DRIVE ME 432HO delivers even more torque as well as an extra 30hp, bringing the total output to 315hp. The perfect choice for almost any craft with a leisure application. For ultimate performance, and especially suitable for larger cruising boats, a triple installation will deliver a super powerful package of 945hp (705kW). The ME 432HO can be supplied with a choice of propeller types and remote control units to suit any application.

AVAILABLE DRIVES



TECHNICAL SPECIFICATIONS

ENGINE MODEL

ME 432 High Output

MAXIMUM OUTPUT AT CRANKSHAFT - ISO 3046-1

235kW/3600rpm (315hp)

CYLINDERS

In-line 6 cylinder

DISPLACEMENT litres (cu in)

4.16 (254)

BORE x STROKE mm (ins)

94 x 100 (3.70 x 3.94)

MAXIMUM MATCHING RPM

3670-3770

VALVE ARRANGEMENT

24-Valve Overhead Camshaft

FUEL SYSTEM

Direct injection • High-pressure rotary pump

FUEL FILTER/ WATER SEPARATOR

Standard • Water contamination warning

ASPIRATION

Turbo Charged • Aftercooler

COOLING

Closed circuit • Integrated heat exchanger

SEA WATER PUMP

Mounted on engine (gear driven)

SEA WATER FILTER

Standard

BATTERY CHARGING

High Output (80 Amp) alternator

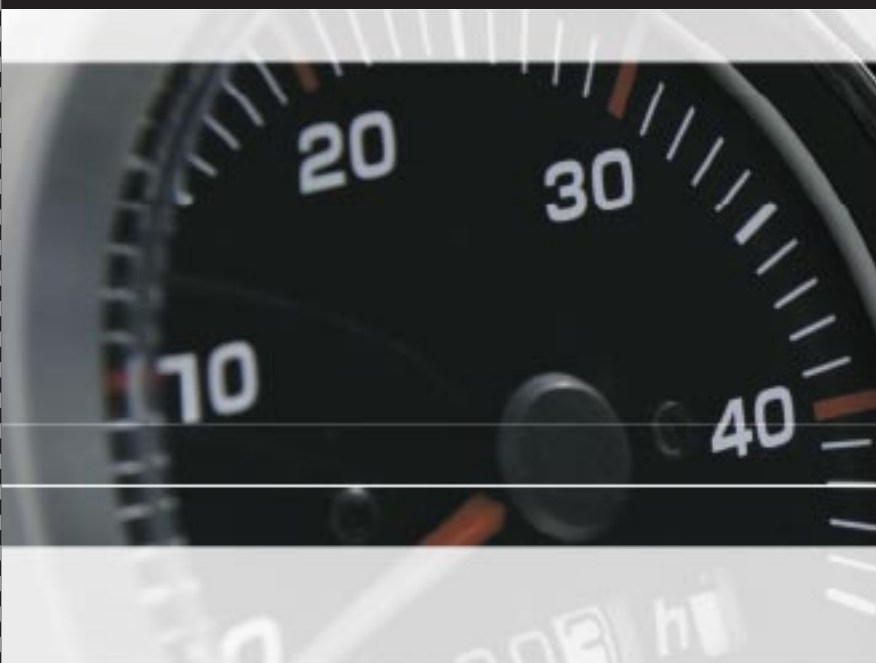
EXHAUST SYSTEM

Through propeller hub

WEIGHT - TOTAL PACKAGE (dry)

TRP - 567kg

Instruments and remotes



Attractively designed, informative and easy-to-read instruments add to the pleasure of using YAMAHA HYDRA DRIVES with a stylish engine monitoring package supplied as standard. This includes a tachometer, voltmeter, oil pressure, water temperature and trim gauges.



Other optional instruments are available to match these, including a special speedometer (for connection to the standard built-in pick up of the HYDRA drive unit), fuel and turbo boost gauges.

A special instrument package is also available for flybridge boats, including a tachometer and a matching panel with Engine Start/Stop buttons. When full repeat instrumentation is required at the second helm position, an additional warning lamp panel and instrument cluster can also be added.

The Yamaha remote control units offer smooth, quiet and easy movement between the gears. Their fast response puts you in instant control when combined with the HYDRA drive unit. Remote control units are fitted with an integral Power Trim and Tilt button for precise adjustment, with -6 to +15 degrees of trim available thus ensuring optimum hull angle and performance at all times.

Owners of twin engine installations will also appreciate the added advantage of single button trimming which is a special feature of the Yamaha dual remote control unit.

Peace of mind



Yamalube

Open your owners manual and you will see that it recommends the use of a wide range of high-tech lubricants, specially formulated to maintain the performance and reliability level you expect from your marine engine ... for life. Its called **YAMALUBE**.

So be sure to ask your Yamaha dealer for **YAMALUBE**. One simple word that spells ultimate quality ... and complete peace of mind.



2 year Limited Warranty

YAMAHA HYDRA DRIVES are protected by a 2 year limited warranty covering their use for normal leisure purposes. More details are available on the Yamaha Warranty card or from your **YAMAHA HYDRA DRIVE** dealer. Special conditions of warranty apply to commercial use. For details please contact the Yamaha Distributor in your country.

Rely on YAMAHA for ultimate service

Once we have won your confidence we will do everything in our power to keep it. Besides a 2 year limited warranty you also get a lifetime assurance that Yamaha Hydra Drive service dealers will always be there to support you when ever needed.

2009

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www.yamaha-motor.co.uk



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www.yamaha-motor.co.uk/accessories_parts

Dealer: