MAX POWER

a navimo group company

www.max-power.com

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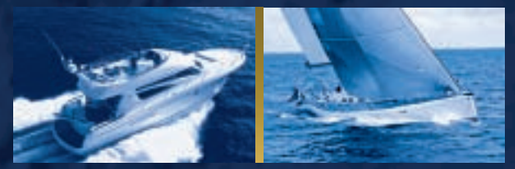
MAX POWER



a navimo group company

MAX POWER

Founded in 1987, Max Power offers a wide variety of products destined for yachts of all types and sizes.

We are the only company to offer a full range of both tunnel and retractable thrusters ensuring complete freedom of choice.

Renowned for supplying high quality products, we remain dedicated to designing and producing innovative and often unique solutions which all strive to bring ultimate performance into the world of everyday yachting.

p2 PRODUCT SELECTION

Tunnel thrusters

Retractable thrusters

Bow thrusters and stern thrusters

Electric or hydraulic power

www.max-power.com

p6 ELECTRIC TUNNEL THRUSTERS

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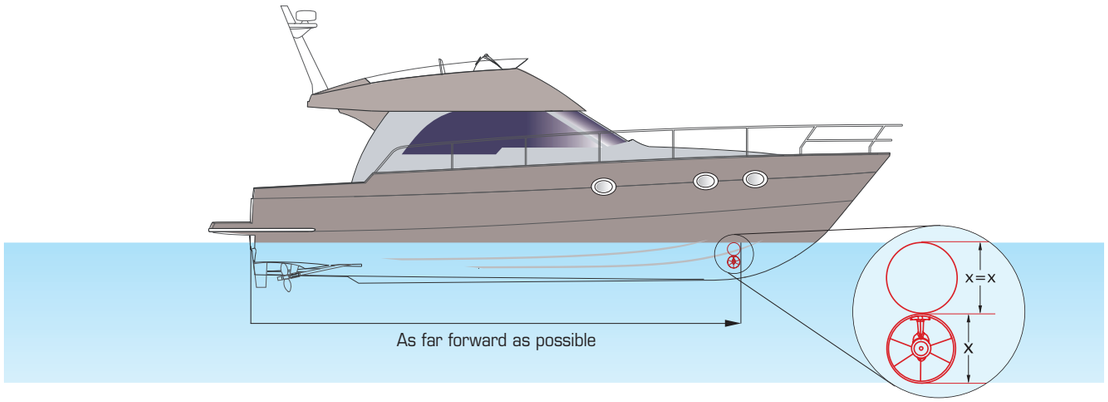
Select the right thruster

Tunnel thrusters

Positioning thrusters is often as important as choosing the right thrust output when seeking a suitable thruster for your yacht.

The thruster's turbine needs to be placed one full propeller diameter under the water line to achieve optimal thrust. The thruster must also be positioned as far forward in the bow or as far back in the stern as possible. A thruster stepped back from the bow (or stern) would need to be more powerful than one mounted further forward (or aft), to achieve the same turning effect on the yacht.

With this in mind, tunnel thrusters offer an ideal solution for motor yachts and even deep-footed sailing yachts when sailing performance is not paramount.



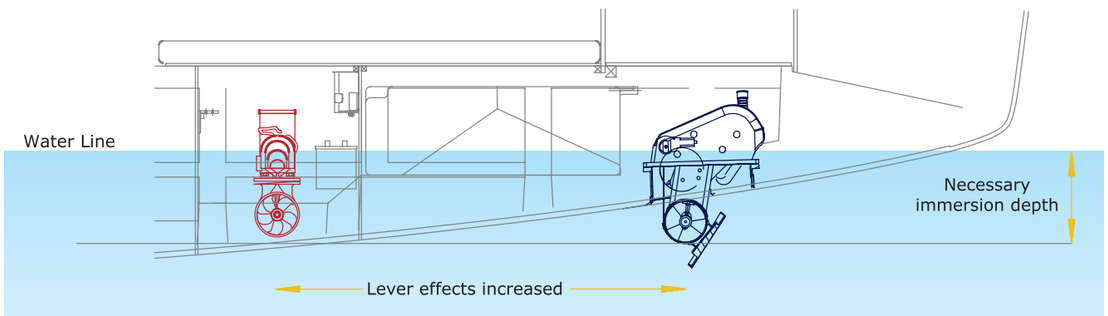
Ideal immersion depth = 1 x Tunnel diameter

Retractable thrusters

Retractable thrusters are easily installed far forward in the bow whilst still achieving the required immersion depths. This results in a thruster that has a good turning effect on the yacht, often allowing a unit with a lower thrust rating than its tunnel equivalent to be used with excellent results.

When retracted these units have no effect on the yacht's drag and do not reduce sailing performance in light winds.

Most modern sailing yachts are better suited to retractable thrusters.

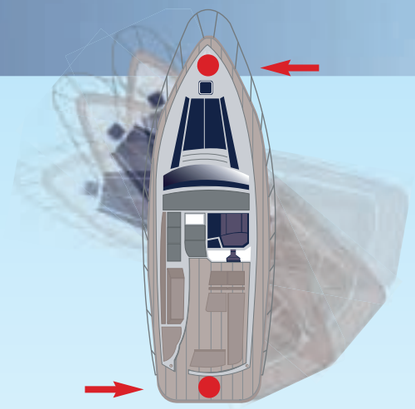


The right solution

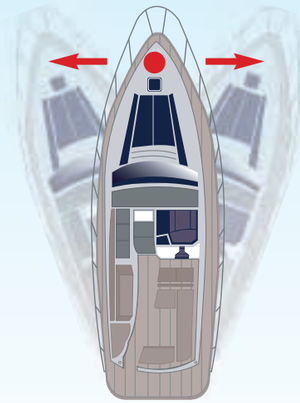
Bow thrusters and stern thrusters

The combined use of a bow and stern thruster adds a greater level of control when manoeuvring in difficult conditions or tight corners.

Turning on the spot or even stepping the entire yacht sideways becomes possible. Max Power offers stern thruster adapters for the entire tunnel thruster range. A range of Ignition Protected thrusters is also available enabling the use of a stern thruster in habitually damp zones.

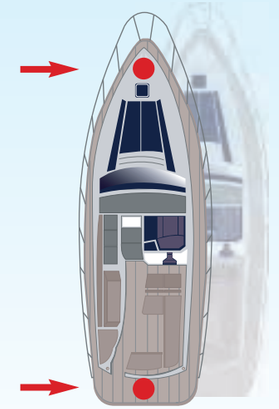


Bow and stern thruster



Bow thruster alone

Stern thruster alone

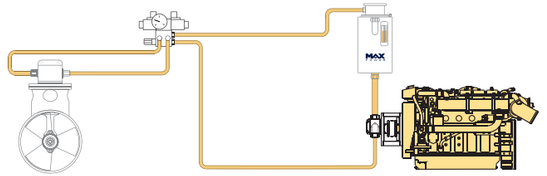


Bow and stern thruster

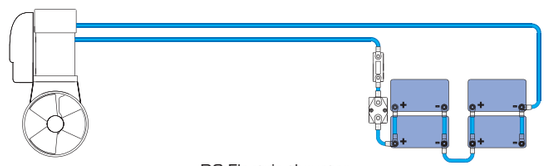
Electric or hydraulic power source

Bow and stern thrusters whether retractable or tunnel require a power source. On a yacht this can be either a 12/24V DC electric motor or a hydraulic motor.

The hydraulic motor will need to draw power from a thermal engine (via a hydraulic pump) or a remote mounted DC motor (also via a hydraulic pump). The DC motor will draw power directly from a battery bank as do direct electric thrusters.



Engine driven hydraulic thruster



DC Electric thruster

Select the right thruster

Tunnel thrusters

Retractable thrusters

Electric tunnel thrusters

Max Power offers a complete range of 12/24V composite electric tunnel thrusters to suit motor yachts and deep footed sailing yachts from 17-85'. Designed for performance and durability, each model is easy to fit, highly cost effective, and integrates a variety of unique features.

- Patented composite drive legs
- Zero maintenance
- Case hardened spiro-conical gears
- Line shields
- Purpose built DC motors
- Electronic control boxes for unrivaled safety features
- Safe, high power connections
- Purpose built high specification DC contactors

Corrosion free composite drive legs eliminate the need for anodes and offer high manufacturing tolerances.

Drive legs are pre-filled with oil and then sealed for life for zero maintenance.

Case hardened spiro-conical gears guarantee a silent, smooth operation, and a long lifespan.

Line shields protect oil seals from fishing lines and fouling.

High efficiency, purpose built DC motors ensure outstanding performance and long run-time ratings.

Electronic control boxes offer unique and unrivaled safety features. See page 22.

Solid copper contact bars guarantee safe, high power connections.

Purpose built high specification DC contactors are both safe and durable.

CT 35

Reference
MPSPC212
Voltage*:
12V
Thrust (kg/lbs)**:
35 / 77
Propellers:
Mono
Power (kw/hp):
2.69 / 3.6
Weight (kg):
9.6

Dimensions (mm)
A: 190
B: 140
C: 210
D: 125
E: 4 to 5

CT 45

Reference
MPSPC312
Voltage*:
12V
Thrust (kg/lbs)**:
40 / 88
Propellers:
Duo
Power (kw/hp):
3.23 / 4.3
Weight (kg):
9.65

Dimensions (mm)
A: 190
B: 140
C: 210
D: 125
E: 4 to 5

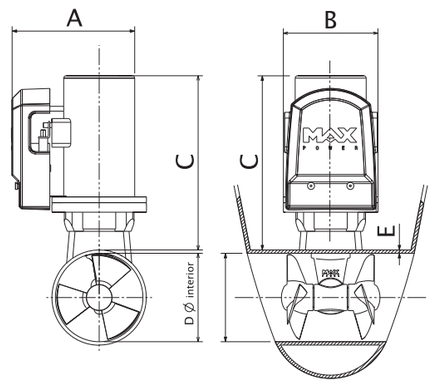
CT 60

Reference
MPSPC412
Voltage*:
12V
Thrust (kg/lbs)**:
58 / 128
Propellers:
Mono
Power (kw/hp):
4.35 / 5.8
Weight (kg):
14.7

Dimensions (mm)
A: 210
B: 140
C: 275
D: 185
E: 6 to 7

Reference
MPSPC424
Voltage*:
24V
Thrust (kg/lbs)**:
63 / 139
Propellers:
Mono
Power (kw/hp):
4.4 / 5.9
Weight (kg):
14.8

Dimensions (mm)
A: 210
B: 140
C: 275
D: 185
E: 6 to 7



Electric tunnel thrusters

CT 80

Reference
MPSPC512
Voltage*:
12V
Thrust (kg/lbs)**:
69 / 152
Propellers:
Duo
Power (kw/hp):
4.79 / 6.4
Weight (kg):
15

Dimensions (mm)
A: 210
B: 140
C: 275
D: 185
E: 6 to 7

Reference
MPSPC524
Voltage*:
24V
Thrust (kg/lbs)**:
75 / 165
Propellers:
Duo
Power (kw/hp):
5.28 / 7.1
Weight (kg):
15.1

Dimensions (mm)
A: 210
B: 140
C: 275
D: 185
E: 6 to 7

NB: Images are not to scale.

*Thrusters are designed to run at 10.75V on 12V units and 22V on 24V units. Higher voltages will result in higher thrust ratings, higher power consumption, and a reduced duty cycle.

**Performance data is given for a thruster installed at an immersion depth of one tunnel's diameter, in a tunnel no longer than twice the tunnel's diameter, and this within a variation of + / - 6%. Longer tunnels will result in lower thrust ratings and higher power consumption.

***Model only available with bronze driveleg.

CT 165

Reference
MPSPC924
Voltage*:
24V
Thrust (kg/lbs)**:
160 / 353
Propellers:
Duo
Power (kw/hp):
11.88 / 15.9
Weight (kg):
36

Dimensions (mm)
A: 250
B: 200
C: 430
D: 250
E: 7 to 8

CT 225

Reference
MPSPC1124
Voltage*:
24V
Thrust (kg/lbs)**:
195 / 430
Propellers:
Duo
Power (kw/hp):
14.96 / 20
Weight (kg):
37

Dimensions (mm)
A: 270
B: 200
C: 405
D: 250
E: 7 to 8

CT 100

Reference
MPSPC812
Voltage*:
12V
Thrust (kg/lbs)**:
96 / 212
Propellers:
Duo
Power (kw/hp):
7.1 / 9.5
Weight (kg):
24

Dimensions (mm)
A: 250
B: 200
C: 365
D: 185
E: 6 to 7

CT 125

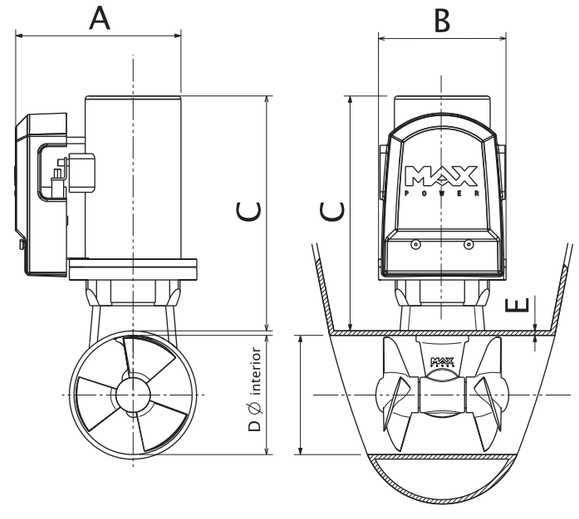
Reference
MPSPC824
Voltage*:
24V
Thrust (kg/lbs)**:
115 / 254
Propellers:
Duo
Power (kw/hp):
8.56 / 11.5
Weight (kg):
24

Dimensions (mm)
A: 250
B: 200
C: 365
D: 185
E: 6 to 7

CT 325

Reference
MPSP3024***
Voltage*:
24V
Thrust (kg/lbs)**:
255 / 562
Propellers:
Duo
Power (kw/hp):
19.69 / 26.4
Weight (kg):
58.5

Dimensions (mm)
A: 250
B: 250
C: 480
D: 315
E: 9 to 10



Ignition Protected thrusters

Max Power's new range of Ignition Protected tunnel thrusters is available for models CT35 to CT125. Certified ISO 8846, this range allows the safe use of an electric tunnel thruster in petrol / gas engine vessels where there may be potentially flammable gases. IP thrusters can also be installed in habitually wet or damp areas such as sail lockers, or in the transom of deep "V" shaped motor yachts.

- Ignition Protected to ISO 8846 and water resistant
- Easy to connect thruster
- Patented composite drive leg
- Zero maintenance
- Case hardened spiro-conical gears
- Line shields
- Purpose built DC motors
- Electronic control boxes for unrivaled safety features
- Safe, high power connections
- Purpose built high specification DC contactors

Ignition Protected and water resistant.

Easy to connect thruster. Robust metallic frame.

Unique composite drive leg design. See page 7 for full details.

High specification electric motors. See page 7 for full details.

Ignition Protected thrusters

CT35-IP

Reference
MPSPC212/IP - 12V
Weight [kg]: 11.6

Dimensions (mm)
A: 301
B: 230
C: 295
D: 125
E: 4 to 5

CT45-IP

Reference
MPSPC312/IP - 12V
Weight [kg]: 11.65

Dimensions (mm)
As per CT35-IP

CT60-IP

Reference
MPSPC412/IP - 12V
MPSPC424/IP - 24V
Weight [kg]: 17.5

Dimensions (mm)
A: 320
B: 255
C: 375
D: 185
E: 6 to 7

CT80-IP

Reference
MPSPC512/IP - 12V
MPSPC524/IP - 24V
Weight [kg]: 17.6

Dimensions (mm)
As per CT60-IP

CT100-IP

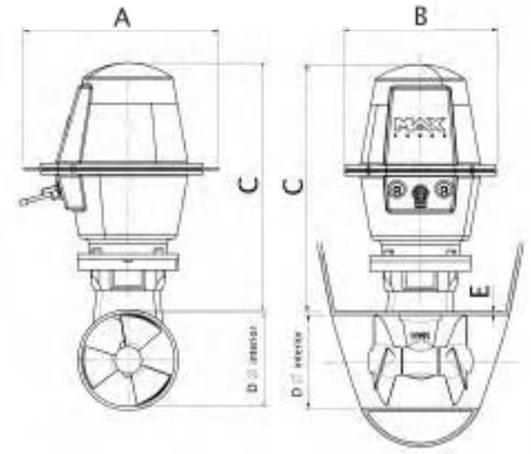
Reference
MPSPC812/IP - 12V
Weight [kg]:
27.2

Dimensions (mm)
A: 390
B: 305
C: 490
D: 185
E: 6 to 7

CT125-IP

Reference
MPSPC824/IP - 24V
Weight [kg]: 27.2

Dimensions (mm)
As per CT100-IP



NB: Images are not to scale.
For IP thruster specifications, see corresponding electric tunnel thruster model.

Hydraulic tunnel thrusters

Max Power's range of hydraulic tunnel thrusters are suitable for medium to heavy displacement, high windage vessels from 40-85'. Designed for durability and performance, hydraulic tunnel thrusters are ideal when long runtimes are required. Manufactured using corrosion free components, these models are robust, water resistant and integrate a variety of unique features.

- Branded hydraulic components
- Long runtimes
- Water resistant
- Patented composite drive legs
- Zero maintenance
- Case hardened spiro-conical gears
- Line shields
- Electronic control boxes for unrivaled safety features

Branded hydraulic components for international serviceability.

Can be installed in habitually damp areas such as sail lockers.

Unique composite drive leg design. See page 7 for full details.

Electronic control boxes offer unique and unrivaled safety features. See page 22.

CT HYD 125

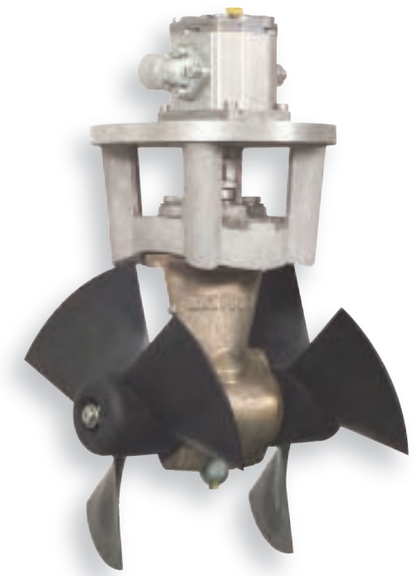
Reference
MPHYC810*
Max. thrust (kg/lbs)**:
115 / 254
Hydraulic power (kw):
8.5
Propellers:
Duo
Weight (kg):
12

Dimensions (mm)
A: 210
B: 210
C: 215
D: 185
E: 6 to 7

CT HYD 225

Reference
MPHYC1100*
Max. thrust (kg/lbs)**:
200 / 441
Hydraulic power (kw):
13.5
Propellers:
Duo
Weight (kg):
19

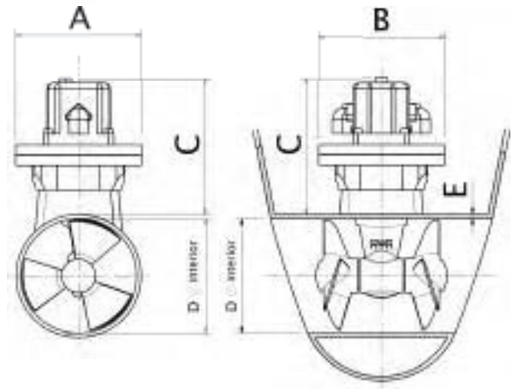
Dimensions (mm)
A: 220
B: 220
C: 220
D: 250
E: 7 to 8



CT HYD 325

Reference
MPHY3150* ***
Max. thrust (kg/lbs)**:
275 / 606
Hydraulic power (kw):
19.5
Propellers:
Duo
Weight (kg):
24

Dimensions (mm)
A: 240
B: 240
C: 240
D: 315
E: 9 to 10



NB: Images are not to scale

*Several versions of each model are available. Please consult your local Max Power distributor.

**Performance data is given for a thruster installed at an immersion depth of one tunnel's diameter, in a tunnel no longer than twice the tunnel's diameter, and this within a variation of + / - 6%. Longer tunnels will result in lower thrust ratings.

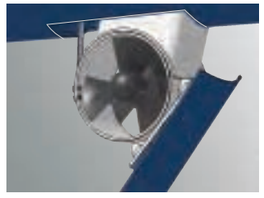
*** Model only available with bronze driveleg.

Electric retractable thrusters

Combining the cost effective simplicity of DC electrics with the high performance characteristics of retractable units, this range is ideally suited to modern sailing yachts and super fast motor yachts. Max Power offers two different types of electric retractable thrusters: the low profile Compact Retract™ and the vertically retracting VIP 150 Electric, catering for yachts from 30-60'. (Max Power patented designs).

- Retract to leave smooth hull lines
- When deployed ideal immersion depth is achieved
- Patented composite drive legs
- Zero maintenance
- Case hardened spiro-conical gears
- Line shields
- Purpose built DC motors
- Electronic control boxes for unrivaled safety features
- Safe, high power connections
- Purpose built high specification DC contactors

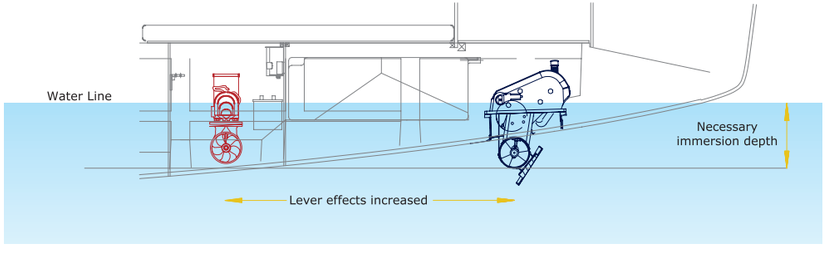
When retracted hull lines are left smooth and unaffected.



When deployed ideal immersion depth is achieved.

Unique composite drive leg design. See page 7 for details.

High specification electric motors. See page 7 for details.

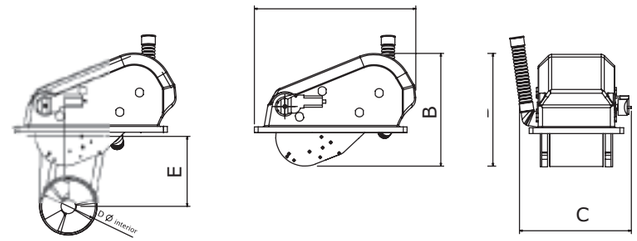


Installed further forward (or aft) in the hull than is possible with a tunnel thruster, retractable units offer a far better turning moment on the yacht thus producing greater manoeuvrability.

Electric retractable thrusters

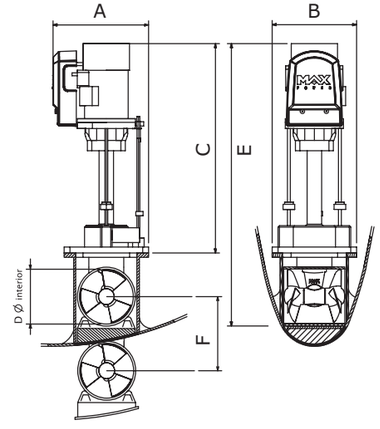
COMPACT RETRACT™

Reference RTE085012	Reference RTE085024	Dimensions (mm)
Voltage*: 12V	Voltage*: 24V	A: 555
Thrust (kg/lbs)**: 70 / 154	Thrust (kg/lbs)**: 85 / 187	B: 388
Propellers: Duo	Propellers: Duo	C: 385
Power (kw/hp): 4.79 / 6.4	Power (kw/hp): 5.28 / 7.1	D: 185
Weight (kg): 40	Weight (kg): 40	E: 241



VIP 150 ELECTRIC

Reference VPC81012	Reference VPC81024	Dimensions (mm)
Voltage*: 12V	Voltage*: 24V	A: 330
Thrust (kg/lbs)**: 96 / 212	Thrust (kg/lbs)**: 115 / 254	B: 290
Propellers: Duo	Propellers: Duo	C: 710
Power (kw/hp): 7.1 / 9.5	Power (kw/hp): 8.56 / 11.5	D: 185
Weight (kg): 40	Weight (kg): 40	E: 970
		F: 240



NB: Images are not to scale

*Thrusters are designed to run at 10.75V on 12V units and 22V on 24V units. Higher voltages will result in higher thrust ratings, higher power consumption, and a reduced duty cycle.

**Performance data is given for a thruster deployed at an immersion depth of one tunnel's diameter, and this within a variation of + / - 6%.

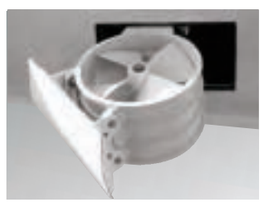
Hydraulic retractable thrusters

Hydraulic retractable thrusters

When performance is paramount, hydraulic retractable thrusters provide a perfect solution. Lightweight, powerful and allowing near perfect weight distribution, designers and prestigious yards have consistently specified Max Power thrusters over the years. Max Power offers two product ranges in this family: the vertically retracting VIP HYD range and the top end Retract™ folding series.

- Retract to leave smooth hull lines
- When deployed ideal immersion depth is achieved
- Water resistant
- Allow ideal weight distribution
- Ideal for high performance yachts
- Unique patented thrust plate design (VIP)
- Unique patented folding movement (Retract™)
- Case hardened spiro-conical gears
- Lightweight design

When retracted hull lines are left smooth and unaffected.



When deployed ideal immersion depth is achieved.

Can be installed in habitually damp areas such as sail lockers.

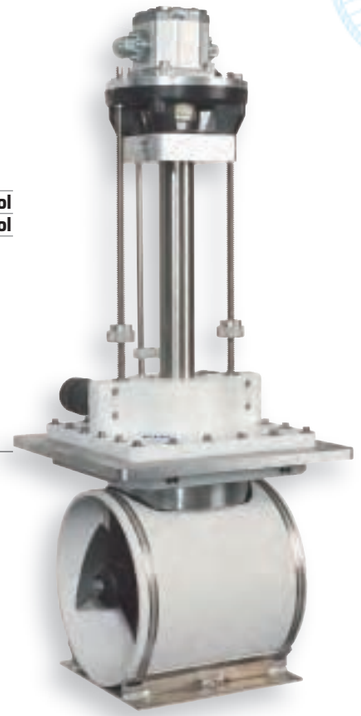
Allow ideal weight distribution in high performance yachts.

VIP150 HYD

Reference
VPHYDC152 - 12V control
VPHYDC154 - 24V control

Max. thrust (kg/lbs)*:
115 / 254
Hydraulic power (kw):
8.5
Propellers:
Duo
Weight (kg):
28

Dimensions (mm)
A: 290
B: 290
C: 580
D: 185
E: 810
F: 240

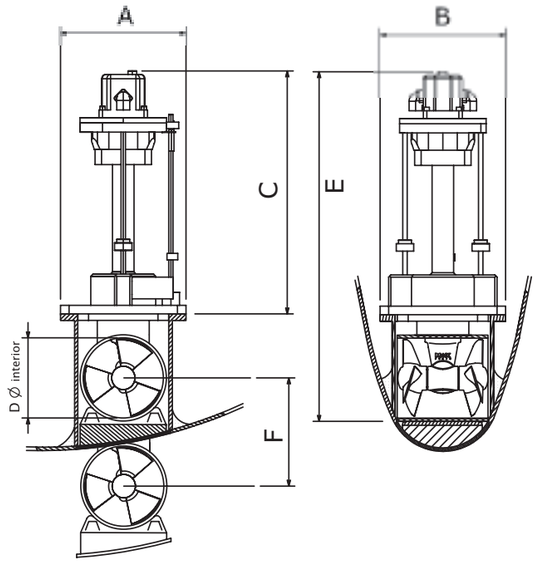


VIP250 HYD

Reference
VPHYDC252 - 12V control
VPHYDC250 - 24V control

Thrust (kg/lbs)*:
200 / 441
Hydraulic power (kw):
13.5
Propellers:
Duo
Weight (kg):
37

Dimensions (mm)
A: 360
B: 360
C: 620
D: 250
E: 950
F: 295



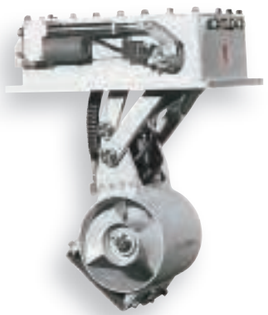
NB: Images are not to scale

*Performance data is given for a thruster deployed at one tunnel diameter immersion depth, and this within a variation of + / - 6%.

For more in-depth information on this range, please visit our website:

www.max-power.com

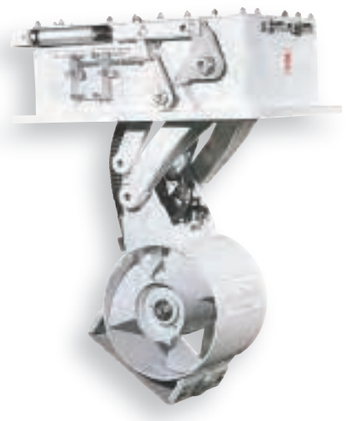
Hydraulic retractable thrusters



R200

Thrust:
10 kg per kw
Max. hydraulic power (kw):
13
Propellers:
Duo, 2 blades
Weight (kg):
35

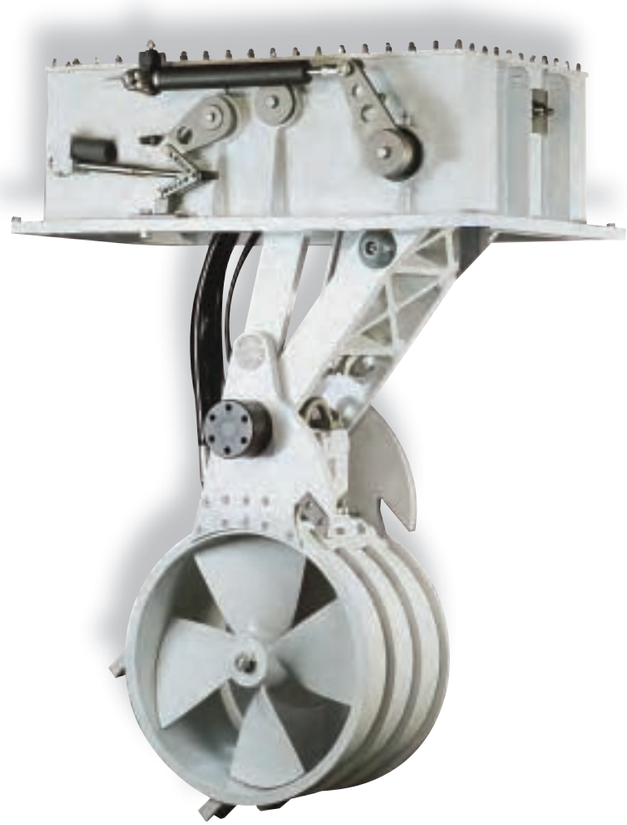
Dimensions (mm)
A: 500
B: 355
C: 320
D: 200
E: 255



R300

Thrust:
11 kg per kw
Max. hydraulic power (kw):
25
Propellers:
Duo, 3 blades
Weight (kg):
73

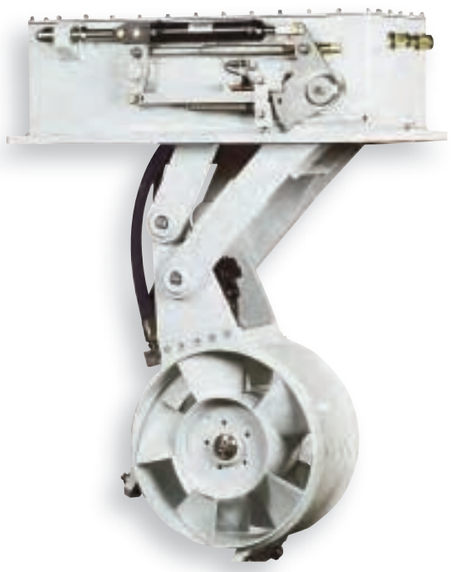
Dimensions (mm)
A: 665
B: 500
C: 450
D: 300
E: 360



R600

Thrust:
12 kg per kw
Max. hydraulic power (kw):
75
Propellers:
Mono, 4 blades
Weight (kg):
320

Dimensions (mm)
A: 1210
B: 967
C: 985
D: 600
E: 772



R450

Thrust:
11 kg per kw
Max. hydraulic power (kw):
57
Propellers:
Duo, 5 blades
Weight (kg):
165

Dimensions (mm)
A: 940
B: 748
C: 460
D: 450
E: 540

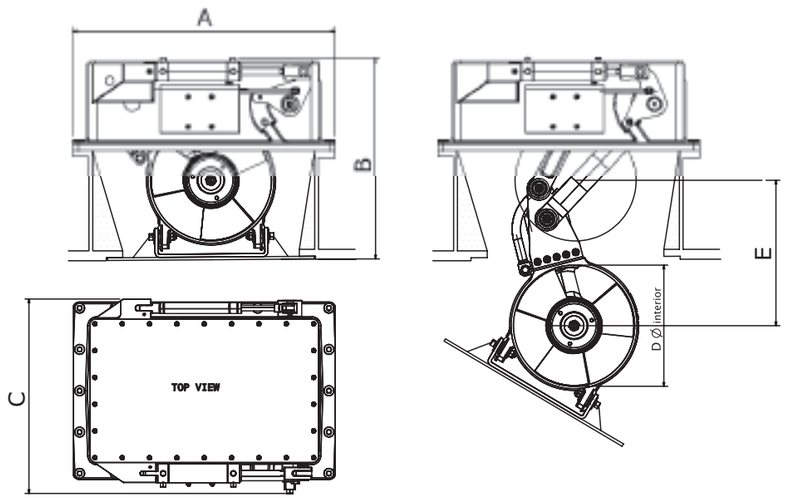
Custom Services

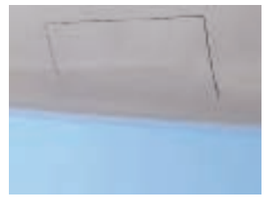
Several versions of each Retract™ model are available.

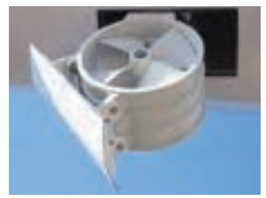
Hydraulic flow and pressure can be customised to suit hydraulic system specifications.

Many of the larger units in this range are manufactured to order. Specified by designers and architects alike, these technically superior retractable units are supplied to many of the world's finest custom yacht builders.

For more in-depth information on this range, please visit our website:
www.max-power.com







Control panels

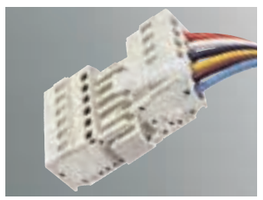
All control panels are specially designed for use with Max Power's complete range of tunnel and retractable thrusters. Fitted using a simple hole saw cut out, panels are easy to install and benefit from a simple and easily replaceable weatherproof clip-on cover. Each panel is complete with both male and female connectors using a reusable connection system.

- Available in black or grey
- Water resistant
- Easy to fit
- Replaceable clip-on cover
- Safety features

Water resistant.

Easy to fit.

Easy to replace clip-on cover.



Reusable connections.

Control panels

All our control panels are available in both black and grey.

Ref. Black
MPOP8055
Ref. Grey
MPOP8055/G

Compatible with :
All tunnel thrusters

Ref. Black
MPOP8105
Ref. Grey
MPOP8105/G

Compatible with :
All tunnel thrusters

Ref. Black
MPOP8068
Ref. Grey
MPOP8068/G

Compatible with :
All tunnel thrusters

Ref. Black
VP088042
Ref. Grey
VP088042/G

Compatible with :
Compact Retract™
VIP HYD & VIP ELEC
R200

Control system safety features

Max Power's thruster control systems are childproof and incorporate unique safety features.

The control system software monitors for incoherent signals, stray voltage, and abnormally long thrust signals in order to help protect against malfunctions caused by water ingress and short circuits. Visual and audio alarms provide a 10 second warning before the overheat shutdown function is activated. If left idle for thirty minutes, the system switches itself off automatically.

Designed with technical details such as independent control power supply (protects relays against damage due to low voltage), and standard remote electric battery isolator control, Max Power's system is clearly ahead of the competition.

These effective mechanisms ensure that your Max Power thruster is both safe and reliable thus guaranteeing peace of mind onboard.

- Childproof activation
- Automatic shutdown after 30 minutes of inactivity
- Visible and audible motor overheat warning
- Motor overheat shutdown after prior warning
- Standard automatic battery isolator control
- Time delay switch between port and starboard thrust
- Software protection against short circuits

Max Power strongly recommends the installation of an automatic battery isolator device when installing thruster systems.

Accessories

GRP Tunnels

Manufactured from fully isophtalic resin and pre-gel coated, Max Power's high quality tunnels have the added advantage of a first coat of matt before being filament wound. Cutting and drilling can therefore be carried out without the risk of damaging the gel coat on the inside surface of the tunnel.

Stern adaptors

Also manufactured from fully isophtalic resin, Max Power's range of stern adaptors are SMC moulded (sheet moulding compound) in a male / female steel mould. This ensures perfect resin fibre ratio and exceptional reproduction of form.

Thruster model	CT35 / CT45	CT60 / CT80 / CT100 / CT125	CT165 / CT 225	CT 325
Tunnel diameter	125mm	185mm	250mm	315mm
Tunnel lengths	**Reference**			
750mm	MP0P2205	MP0P2110		
1 000mm	MP0P2208	MP0P2080	MP0P2130	
1 500mm			MP0P2140	MP0P202000
2 000mm			MP0P2145	MP0P202010
2 500mm	MP0P2210	MP0P2105	MP0P2155	
Stern adaptor	MP0P2135	MP0P2160	MP0P2170	MP0P2175
Stern adaptor fixation kit	MP0P2180 (all models)			

Mounting bases

Mounting bases to suit all of our retractable thrusters are available to facilitate installation. Manufactured from isophtalic GRP, they can be easliy integrated into new builds or retro-fitted.

Aluminium yachts are catered for with suitable aluminium flanges. These are designed to be welded to the top of a mounting base constructed in the hull.

Reference	Description	Suitable for
RT085019	Aluminium flange	Compact Retract™
RT085020	GRP mounting base	Compact Retract™
VP082031	Aluminium flange	VIP150 ELEC - VIP 150 HYD
VP082040	GRP mounting base	VIP150 ELEC - VIP 150 HYD

Accessories

Cascade Charger

Greatly simplifying the use of 24V thrusters on 12V yachts, the Cascade Charger efficiently charges the thruster's batteries using the yacht's original 12V bank as its power source. Designed specifically for this task, the Cascade Charger includes a multitude of monitoring and safety features.

Fuses

Max Power offers a range of calibrated fuses specifically selected model by model and tested to offer an increased level of protection over standard ANL fuses. Chosen taking into account each fuse's specific blow curve, Max Power fuses match the requirements of each thruster system.

Electric tunnel thrusters

Thruster model	CT35 / CT45	CT60	CT80	CT60/CT80	CT100	CT125	CT165/225	CT325
Voltage	12V	12V	12V	24V	12V	24V	24V	24V
Fuse Amps	125	160	200	125	315	200	250	400
Fuse reference	OPTI3114	OPTI3115	OPTI3112	OPTI3114	OPTI3121	OPTI3112	OPTI3116	OPTI3145
Fuse holder type	T1				T2	T1		T2
Fuse holder ref.	OPTI3119				OPTI3091	OPTI3119		OPTI3091
Extraction handle	OPTI3118 (all models)							

Electric retractable thrusters

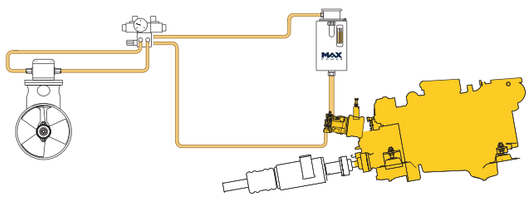
Thruster model	Compact Retract™	Compact Retract™	VIP 150	VIP150
Voltage	12V	24V	12V	24V
Fuse Amps	200	125	315	200
Fuse reference	OPTI3112	OPTI3114	OPTI3121	OPTI3112
Fuse holder type	T1	T1	T2	T1
Fuse holder ref.	OPTI3119		OPTI3091	OPTI3119
Extraction handle	OPTI3118 (all models)			

Other electrical accessories

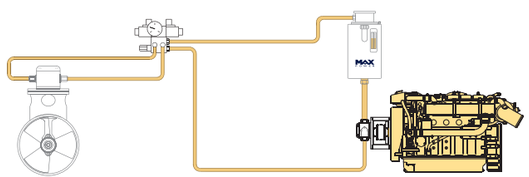
Accessory	Detail	Reference
Control cable	100m	MP0P3184
Electric battery isolator	12V	OPTI3160/3
Electric battery isolator	24V	OPTI3170/3

Thruster only hydraulic systems

Hydraulic thrusters need a carefully designed hydraulic system to run them reliably and efficiently. Often this system may only be required for the yacht's thruster(s). The most common form of thruster only system uses an engine as its power source.These can offer unlimited run times and do not need batteries or high power cables.
Two types of hydraulic pumps can be used for these dedicated systems.



Variable displacement pump
fitted to gearbox mounted PTO



Fixed displacement pump fitted
to generator mounted PTO

Thruster only hydraulics

Variable displacement pumps

A variable displacement pump can be used when a fixed flow is needed but the engine RPM is likely to vary. This would typically be a main engine or gearbox mounted pump.

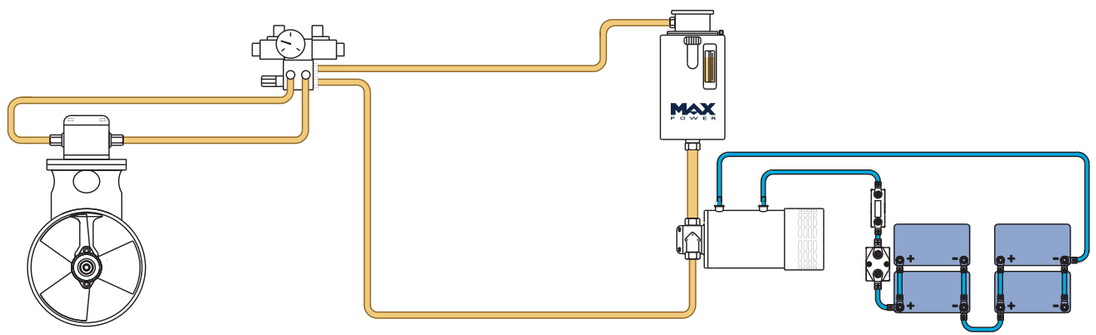
Often used on large powerboats, these systems offer a powerful solution for larger thrusters.

Fixed displacement pumps

Used when a generator with a PTO (power take off) is available, fixed displacement pumps give a single (fixed) flow at a given engine RPM.

Highly robust these systems are simple to install and cost effective.

Dedicated electric hydraulic powerpacks™



Sometimes an engine driven pump may not be feasible, if this is the case Max Power manufactures a range of dedicated DC power packs specifically designed to run our range of hydraulic thrusters both retractable and tunnel.

These have been designed to supply a fixed flow of oil at a specific pressure.

Although still fundamentally a DC thruster, a hydraulic unit run from a DC power pack offers a host of advantages over conventional DC thrusters.

- Better weight distribution in the yacht
- The ability to fit the thruster unit in habitually damp and even wet areas such as sail lockers
- Allows the DC motor to be placed close to the batteries that supply it, whilst still enabling the installation of the thruster(s) in the yacht's extremities

Whether run from a DC motor or an engine, Max Power can supply complete turnkey systems including all necessary accessories such as oil tanks, control valves and electrical control components. In both cases Max Power can advise and design an efficient system suited to your needs.

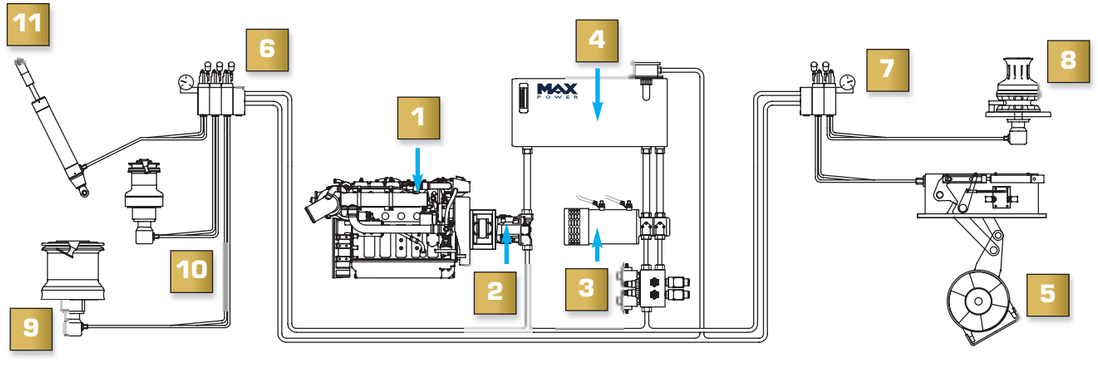
Integrated hydraulic systems

As a natural evolution from thruster only hydraulics, Max Power designs and manufactures fully integrated hydraulic systems for sailing yachts. Whether running winches, windlasses, or complex keel lifting mechanisms our complete hydraulic solutions are used by many of the world's large sailing yacht manufacturers. Unique in their flexibility, our systems are built using a common central line principle.

This means any function can be run from any power source thereby allowing a high level of user control. The use of load sensing pumps and valves ensures efficient and silent operation over a wide range of hydraulic flows and pressures.

Our experience in designing and supplying complete solutions ensures a Max Power system will be efficient, flexible and reliable.

1 Generator with PTO
2 Variable displacement pump
3 DC power pack
4 Oil tank with filtration and gages
5 Thruster
6 Control Valve
7 Control Valve
8 Windlass
9 Winch
10 Winch
11 Hydraulic ram



Integrated hydraulic systems

Sailing yacht power systems typically include one or several generator mounted hydraulic pumps and in addition will require a DC power pack for silent sailing and light manoeuvring.

The PowerValve™ power pack range used in Max Power systems, offers exceptional flexibility and power efficiency over a wide range of hydraulic flows.

Available as single or twin motor units, each motor pump can deliver 3 flow ratings at two predetermined system pressures, thereby accommodating a wide variety of hydraulic functions. From high pressure, low flow keel, to a powerful high flow windlass, each function only draws the amperage needed for that specific application.

Danfoss control valve block

2 x 13kw 24V PowerValve™

Specifications

Reference	MPHY6508	MPHY6501	MPHY6513	MPHY6502
Motor	1 x 8kw	2 x 8kw	1 x 13kw	2 x 13kw
Settings	3	6	3	6
Flow range	10 < 30L/min	10 < 60L/min	10 < 30L/min	10 < 60L/min
Pressure	140 < 214 bar	140 < 214 bar	140 < 214 bar	140 < 214 bar
Weight	35kg	76kg	39kg	83kg

MAX POWER Marine Fuel Cell®

Tomorrow's technology today

Power during a long passage or whilst anchored in a remote idyllic location is no longer a problem with a Max Power Marine Fuel Cell® onboard.

The Marine Fuel Cell® is a continuous power generator capable of supplying clean and virtually silent 12V DC power to constantly and ecologically charge your batteries, thus eliminating the need to run the main engine or fit unsightly and noisy wind generators. Capable of running 24 hours a day, the MFC® continually supplies power as needed. This constant power approach reduces the harmful effects of repetitive deep discharge / charge cycles thereby increasing the life of the yacht's house batteries. Now available in three models, the Marine Fuel Cell® range offers extended lifespan, reduced methanol consumption and increased user control.

With a continuous output of up to 5.8A (MFC® 140), the MFC® range is capable of running a long list of 12V DC equipment including electronics, refrigerators, microwaves, inverters and even low pressure water makers.

Depending on the size of your yacht, and your individual cruising requirements, there is certainly a MFC® adapted to meet your needs.

Model reference	Ah per day	Continuous output (12V)	Recommended for yachts
MFC60	60	2.5A	< 32'
MFC110	110	4.6A	32-40'
MFC140	140	5.8A	40-48'

MFC® Range

Installation

Compact and lightweight, each model weighing only around 7kg, the MFC® is easily installed in any dry, ventilated area, and there is no need for exhausts or cooling water inlets.
The remote control panel is easily mounted onto your DC switch board and offers condition and run time indicators as well as a full range of user controls and functions.

Concept

Methanol is converted into electricity by the MFC® via a low temperature electrochemical process. Methanol is supplied in specially designed 5L safety cartridges, safe to use and easy to store.

Accessories

Reference	Description
MFCM5	Methanol cartridge 5L (set of 2)
MFCM0	Medium process (set of 2)

Technical specifications

Voltage: 10.8V - 14.2V
Methanol consumption: 1.1L per kwh
Operating temperature:
-20 to +40°C
(-4 to +104°F)
Humidity: 20 to 90%
Noise:
39dB at a distance of 1 meter
Operation mode:
Totally automatic or manual charging for an external 12V battery bank
Short circuit protection:
Electric cut-off overload and short-circuit protection 8A

Dimensions (l x w x h):
435 x 200 x 276 mm
Weight :
7 to 8kg (depending on model)

Fuel cartridge

Capacity: 5L
Weight: 4.2kg
Hour/Cartridge*:
MFC 60 :152
MFC 110 : 82
MFC 140 : 66

*Values given as guidance only

Worldwide distribution

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Brazil
Canada
China
Croatia
Cyprus
Denmark
Finland
France
Germany
Greece
Holland
Hungary
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Italy
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Malta
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Norway
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Slovenia
South Africa
Spain
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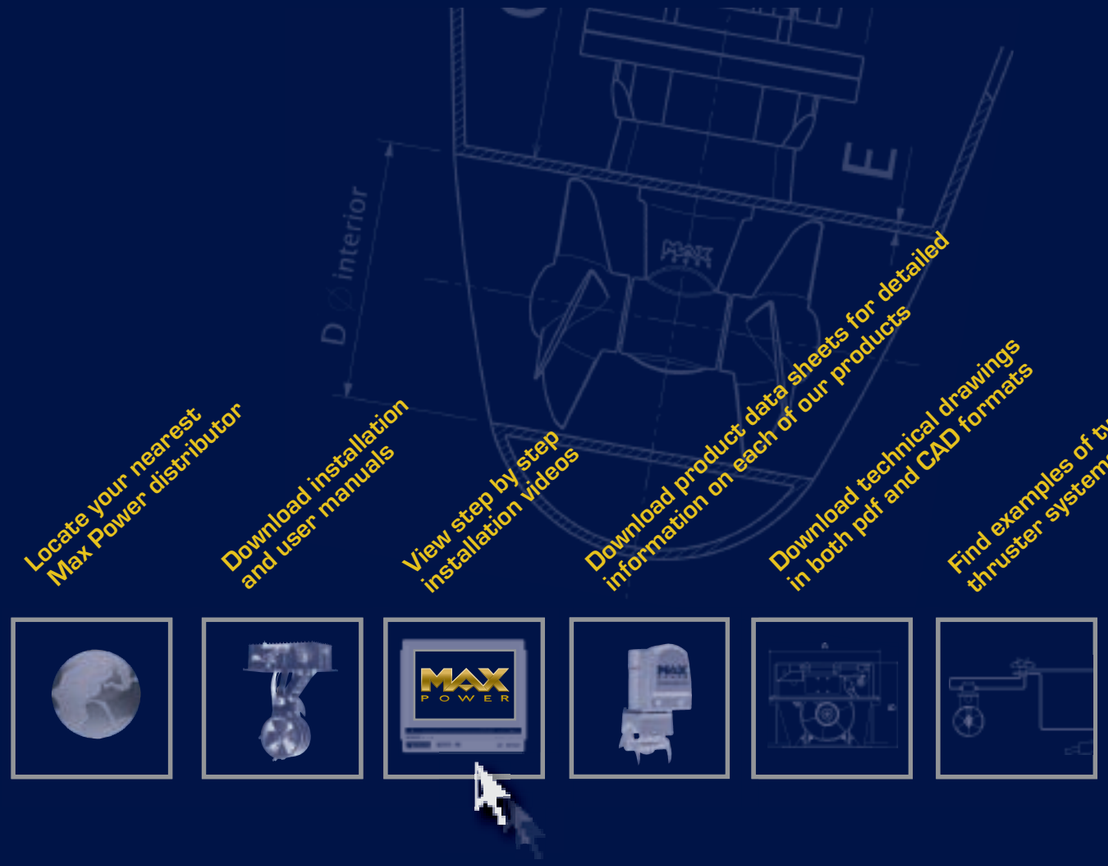
www.max-power.com

We invite you to visit our website where you can:

- Learn more about Max Power's range of products
- Be the first to know about our new products
- Download product data sheets
- Download manuals and technical drawings
- Locate your nearest Max Power distributor



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