

DynaPilot

Joystick system



- Full control with one joystick
- Add-on to type-approved auto pilot
- Freedom of movement for optimal user experience
- Based on dynamic positioning technology



Category

All vessel types



Yachting



Deepsea



Workboats



Fishing

Features |

The DynaPilot is an add-on on the existing and already successful MFM autopilot that is already daily used at many vessels. This MFM autopilot is a type-approved modular heading or track control system (up to CAT-C) designed to fit ships, and vessels of any size including high speed crafts. With the DynaPilot add-on installed on board of the vessel, the officer on watch is then able to control his vessel with a joystick.



Through years of experience in the dynamic positioning industry, engineers have integrated DP algorithms into the hardware of the DynaPilot system. These DP algorithms reduce the response time of the commands given by the control computer and control unit which are part of the DynaPilot system and will give a much better user experience. The DynaPilot is the game changer, making DP technology available for any seafarer.

- Full control with one joystick
- Connect up to 3 control positions (e.g. one main bridge and two wing stations)
- Add-on to type-approved auto pilot
- Uses same sensors as auto pilot
- Dynamic positioning technology
- Ideal to use on Ferries, Crew tenders, Patrol boats, Yachts



Joystick |

During the design of the DynaPilot, we have spoken a lot with many experienced captains and helmsmen to hear what they find pleasant to use in terms of overview while sailing, comfort, ergonomics, and safety. This resulted in offering two different joysticks, for different situations.

Both joysticks have the same functionality when the DynaPilot is switched on, but one of them has a built-in tiller function that can be used immediately when switching back to normal follow-up steering. Using this tiller in the installation can be handy when space is limited, like installation in an armrest.

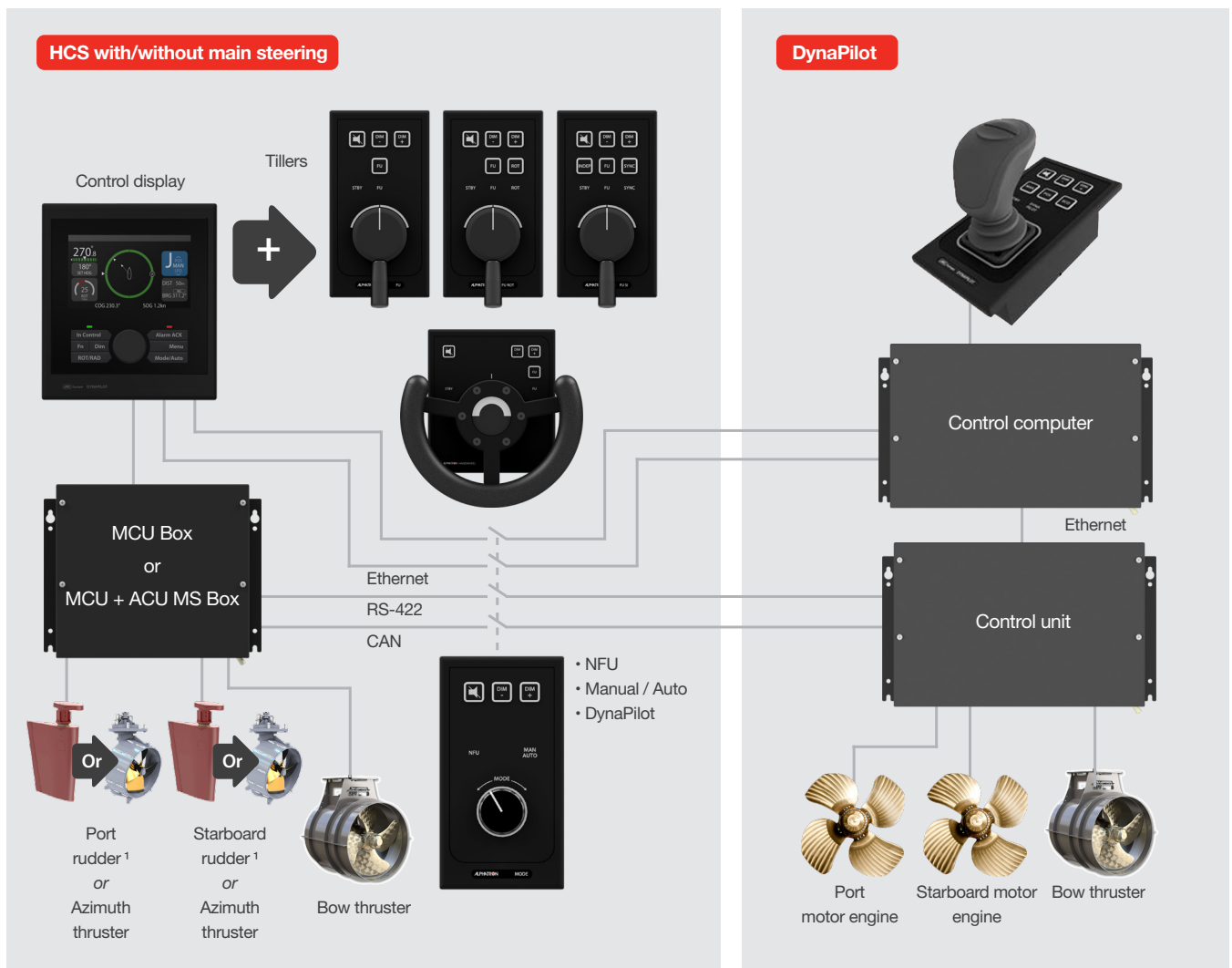


System overview |

The complete DynaPilot MFM system exists of a MED type approved MFM autopilot and a joystick, control computer and power unit. Standard number of control stations that can be connected to the Control unit is limited by 3 (e.g. one main bridge and two wing stations).

The system can use the same sensors as the autopilot, the number of sensors and position reference systems that can be connected in total is 8.

Depending on the ship's propulsion equipment, the installation can be provided with follow-up and non-follow-up tillers, and extra control displays on multiple steering positions.



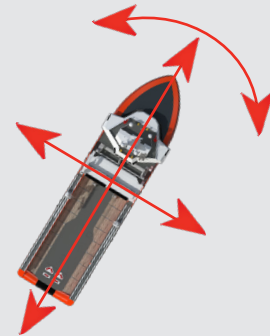
¹Two rudders options Synchronized or Independent

User experience |

The operator has full control and freedom of movement over the vessel using only a joystick, including some very valuable additional functions related to dynamic positioning technology such as:

Joystick Manual Control

The surge/sway forces and the yaw moment are controlled manually by using the joystick.



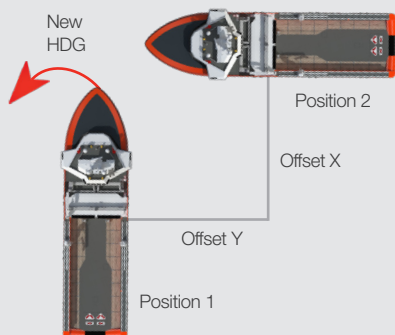
Joystick Auto Position & Heading

Automatic keeping of the operator selected vessel heading.

- Hold the vessel heading
- Set new heading: absolute value or offset from the previous set-point
- Set rate of turn
- Adjustable heading controller gain
- Heading deviation alarm with adjustable limit

Automatic keeping of the operator selected vessel position.

- Hold the vessel position
- Set new position as offset from the previous set-point
- Set transfer speed
- Adjustable position controller gain
- Position deviation alarm with adjustable limit

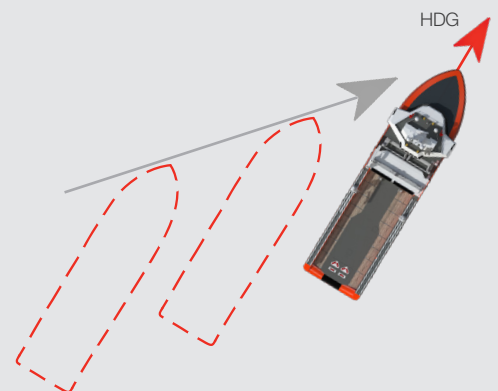


Auto Heading & Manual Positioning

Automatic keeping of the operator selected vessel heading.

- Hold the vessel heading
- Set new heading: absolute value or offset from the previous set-point
- Set rate of turn
- Adjustable heading controller gain
- Heading deviation alarm with adjustable limit

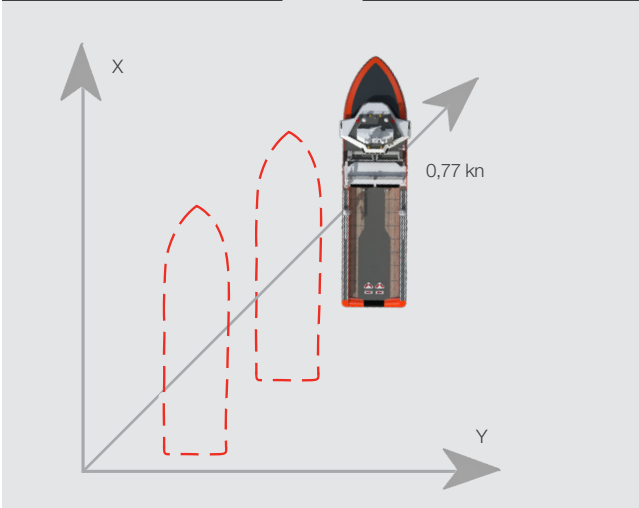
The surge/sway forces are controlled manually by using the joystick.



Joystick Speed Control

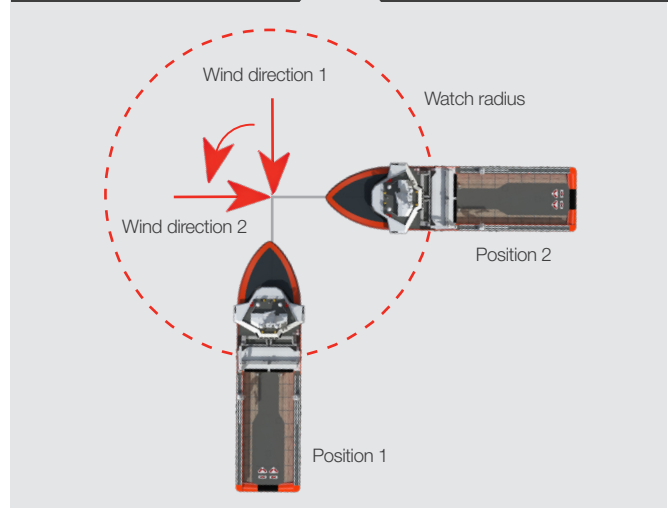
Automatic keeping of the operator selected vessel speed vector.

- Hold the vessel speed
- Set new speed (joystick input)
- Adjustable speed controller gain



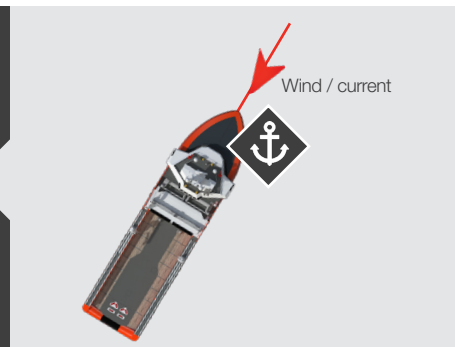
Joystick Eco Positioning

Automatic keeping of the operator selected area with optimal heading directed against disturbing force (wind and/or current) to minimize power consumption of propulsion.



Joystick Anchor

The system automatically searches and sets an optimal heading directed against disturbing force (wind and/or current) to minimize yawing by means of only stern propulsion.



Extra functionalities |

The DynaPilot add-on will also give the operator extra information about certain conditions and useful functionality for different circumstances:

Thrust Allocation

At any given moment the fore-aft and athwart ships forces and rotary moment, which are necessary for ship position and heading control, are calculated.

- Thrust Limits
- Thrust Configuration

Auto Wind Compensation

When this function is selected, control forces and moments are generated to compensate for wind disturbance

Alarm System

The built-in alarm generating system includes online diagnostics, message reporting and alarm acknowledgement function.

- Alert Status System ● ● ●
- Online Diagnostics
- Message Reporting

Configuration |

The DynaPilot can be installed on all kinds of vessel as long as they are equipped at least with:

- Double propulsion with rudders and bow thruster; or
- Two azimuth thrusters, with or without and bow thruster



2 rudders
1 bow thruster



2 azimuth thrusters
1 bow thruster



2 azimuth thrusters



2 rudders

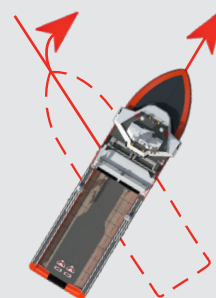
Auto pilot |

The DynaPilot is part of a motion control system, existing of the DynaPilot itself and the autopilot MFM Heading Control System (with or without main steering). The autopilot MFM is a type-approved heading control system, that is modular and can also be upgraded by a separate license key to a track controls system, category C - full track control on legs and turns. When using this powerful system, the officer on watch also has the possibilities to use the autopilot functions that include:

See autopilot brochure for more detailed information about our autopilot systems

Automatic Heading control

Automatic Heading control activates the autopilot and steers the vessel to the reference course which is then shown on the display. When wind and/ or current will push the vessel off course, the Autopilot MFM will measure and counteract to keep the vessel to the set heading.

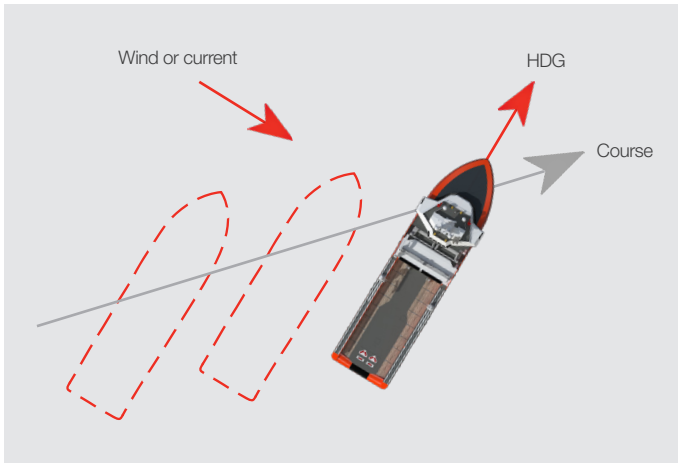


Dodge

The Dodge mode is a short-term switchover from Auto Mode to the manual rudder control. After using the Dodge mode, the Autopilot MFM must be manually returned to Auto Mode and the actual heading is taken as a pre-set heading.

Override

The Override mode will give intentional fast change-over from automatic to temporary manual FU steering from external FU wheel or FU Tiller.

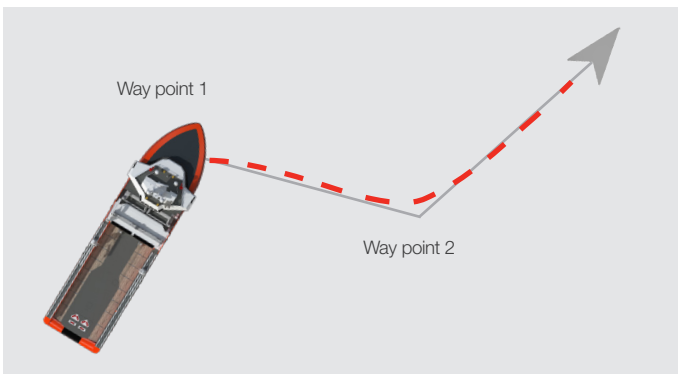
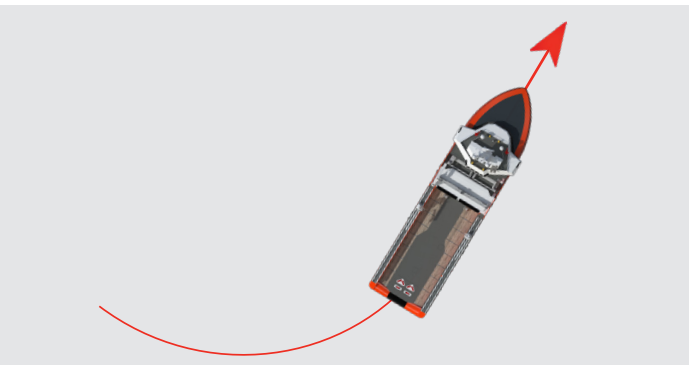


CTS Pilot

Course To Steer is an estimated course that a vessel should steer in order to arrive at a waypoint or bearing and stay on ground track. The vessel will stay on a pre-set Course Over Ground (COG). The drift and wind force and direction are ignored.

River Pilot

In this mode, the autopilot MFM is switched over to manual ROT (Rate-Of-Turn) and will function as a river pilot.

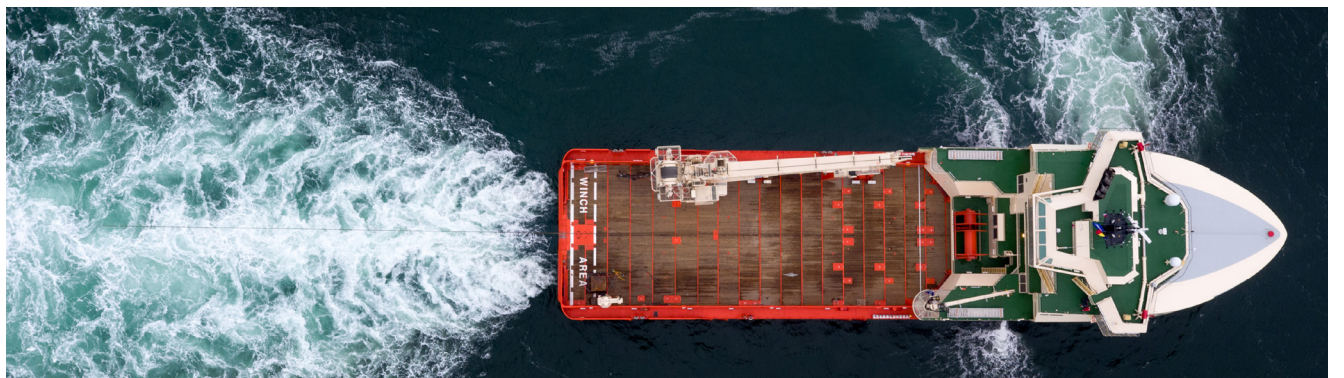


Track (optional with software license)

Track Control mode combines an ECDIS with the Autopilot. The navigator can program a voyage plan into the ECDIS that contains one or more tracks, keeping the vessel on the plotted route.

Automatic Low Speed Heading

Automatic Low Speed Heading control mode, using one or two tunnel thrusters in "AUTO" control mode. Due to low speed, rudders will not work to their full capacity. Interfacing with the bow tunnel thruster will give a counteract as a result of the weather forces (wind/current) to keep the vessel points to the heading.



Tech Specs |

Joystick

G-008729 Weight 0.72 kg (1.59 lbs)



Joystick

G-008728 Weight ±1.42 kg (3.13 lbs)

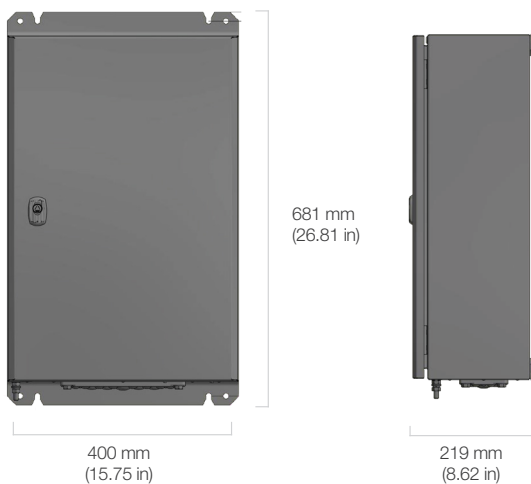


G-008729 - DynaPilot Joystick MFS-A	
Dimensions	96x180x179 (incl. joystick)
Weight	0,72 kg
Operating	-25°C ~ +55°C
Water resistance	IP22
Compass Safe Distance	0,90 m

G-008728 - DynaPilot Joystick MFS-GT	
Dimensions	96x180x183 (incl. joystick)
Weight	1,42 kg
Operating	-25°C ~ +55°C
Water resistance	IP22
Compass Safe Distance	0,90 m

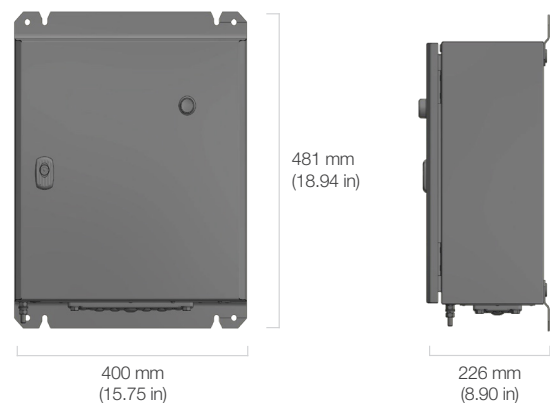
Control unit

Weight 20 kg (44.09 lbs)



Power unit

Weight 17 kg (37.48 lbs)



Control Unit	
Dimensions	400 x 600 x 200 mm (Wide x Height x Depth)
Weight	20 kg
Power supply	Power unit/24 VDC
Power consumption	≤ 20 Watt
Operating	0°C ~ +55°C
Humidity	Up to 95% at 25°C
Water resistance	IP22
Compass Safe Distance	0,75 m

Power Unit	
Dimensions	400 x 400 x 200 mm (Wide x Height x Depth)
Weight	17 Kg
Power supply	Input 230VAC (main ships) / output 24 VDC
Power consumption	≤ 240 Watt
Operating	0°C ~ +55°C
Humidity	Up to 95% at 25°C
Water resistance	IP22
Compass Safe Distance	0,90 m

In the box |

Model

- DynaPilot system as add-on to MFM autopilot APH-5 G-009065

Consist of:

- Proportional Joystick MFS-GT
- Control unit incl. control computer
- Power unit

- DynaPilot system as add-on to MFM autopilot APH-5 G-009066

Consist of:

- Proportional Joystick MFS-A
- Control unit incl. control computer
- Power unit

Optional

- | | | |
|---|------------|------------|
| • MFM Autopilot APH-5 Display Unit | ● G-008730 | |
| • DynaPilot Joystick MFS-A | ● G-008729 | |
| • DynaPilot Joystick MFS-GT | ● G-008728 | |
| • AlphaPilot MFM Main Control Unit (MCU Box) | G-004461 | |
| • AlphaPilot MFM Main Control Unit incl. (MCU MS Box) | G-004462 | |
| • AlphaPilot MFM Additional Control Unit incl. (ACU MS Box) | G-004464 | |
| • AlphaPilot MFM NFU Tiller MFS | ● G-004469 | ● G-004470 |
| • AlphaPilot MFM FU Tiller MFS | ● G-004471 | ● G-004472 |
| • AlphaPilot MFM FU Tiller S/I MFS | ● G-004473 | ● G-004474 |
| • AlphaPilot MFM FU Tiller ROT MFS | ● G-004475 | ● G-004476 |
| • AlphaPilot MFM 4-way CanBus Connection box | G-006352 | |
| • AlphaPilot MFM 8-way CanBus Connection box | G-006655 | |
| • AlphaPilot MFM Safety System | G-006852 | |
| • AlphaPilot MFM TCS License Key Upgrade | G-007591 | |



ALPHATRON
Marine



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