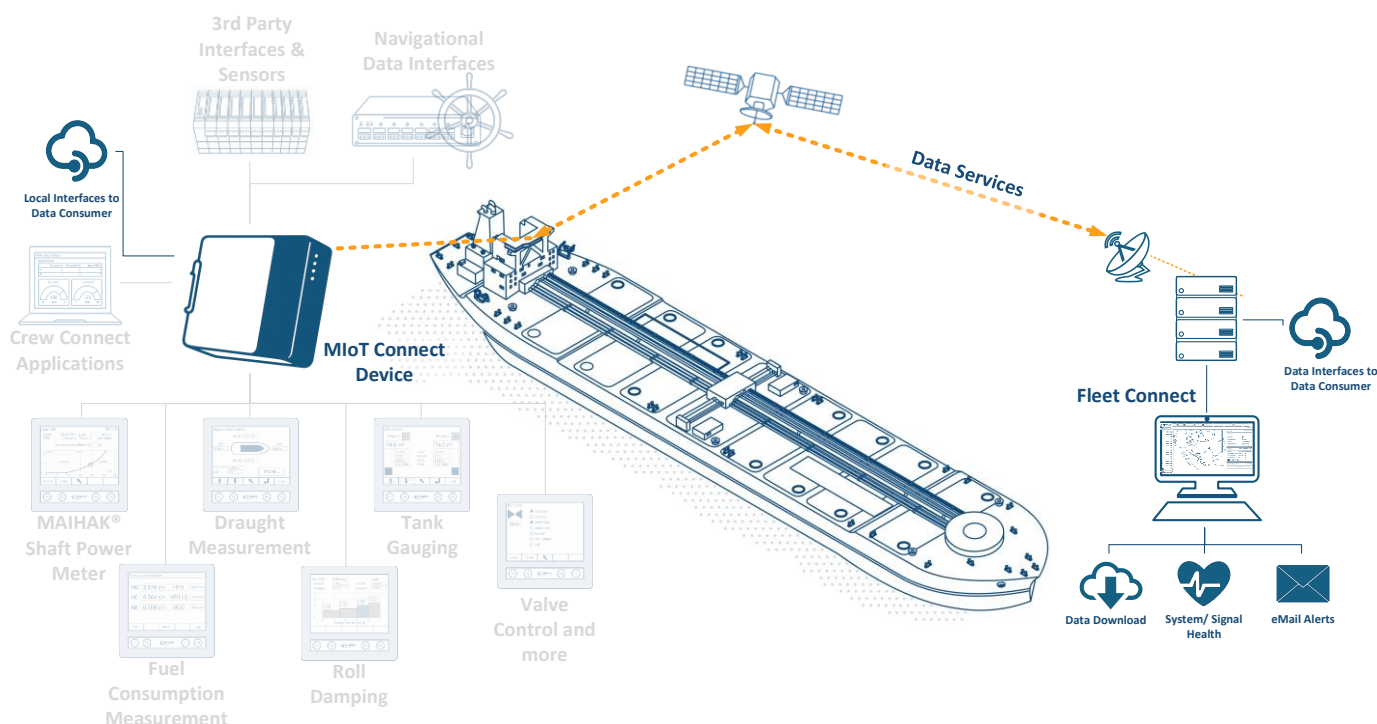


Data Services Description

Our Data Services connect your Hoppe Fluid & Floating or Performance & Energy systems to our cloud. This enables improved troubleshooting, remote support, and makes your operational data available for further analysis and processing. Whether for newbuilds or retrofits, our MIoT Connect devices link your onboard systems to the Hoppe cloud and provide access to our digital services. To meet different requirements across various Hoppe systems, we offer three service packages with different focuses on service functionality and data availability.



Which Data Service Matches Your Need?

Service Connection: Bring your Hoppe systems online for fast remote troubleshooting, saving time and avoiding unnecessary service attendances.

Data Butler: Enable seamless data sharing through Fleet Connect and our Cloud API while keeping full visibility on signal quality.

Data Inspector: Focus on your analysis while Hoppe takes care of signal quality, troubleshooting, and data availability.

Best for Anti Heeling, Tank Gauging, Valve Control, Floating Monitoring System, Roll Damping, Floating Condition Control

Best for MIoT Data Acquisition, MAIHAK® Shaft Power Meter, Fuel Consumption Measurement, Energy Measurement

Service Connection (H-97220-00000)

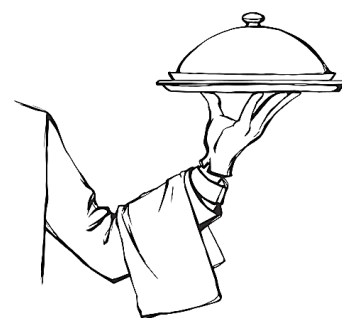
Do you want the best possible service and support, with fast response times and efficient troubleshooting?

Service Connection is designed for Fluid & Floating systems and brings your Hoppe equipment online, making it accessible for remote diagnostics and support. Remote troubleshooting helps avoid time-consuming email exchanges and enables better planning of service attendances and often preventing costly and unnecessary onboard visits. With basic access to Fleet Connect, you can monitor the status of your Hoppe systems at any time, track key parameters and sensor values remotely, and access the complete digital system documentation and spare parts catalogue.

**Data Butler (H-97211-00000)**

Do you want to use Hoppe system data for further analysis and processing, for example in your own data warehouse or third-party platforms?

Then Data Butler is the ideal choice. It includes all Fleet Connect features, allowing you to monitor, visualize, and summarize sensor data independently. Data Butler provides full transparency of your data streams and enables you to monitor signal quality on your own, identify irregularities early, and address issues proactively within your own data processes. Hoppe monitors the connection status of the data logger and informs the crew in case of technical faults. Through our onshore Cloud REST API, data can be delivered to multiple external applications, supporting a flexible self-service approach.


**Data Inspector (H-97208-00000)**

Do you want to focus on your data analysis while ensuring consistently high data quality — without managing it yourself?

Then Data Inspector is our full-service solution. In addition to unlimited access to Fleet Connect and data sharing, Hoppe continuously monitors signal quality across your vessels and proactively initiates troubleshooting to maximize data availability and reliability. Our data analysts and service technicians combine expertise in data handling and analytics with deep system knowledge down to wiring and protocol level, ensuring the highest possible data quality for your data and optimization.



Pos.	Name	Description	Service Connection	Data Butler	Data Inspector
1.	Cyber Secure Infrastructure				
1.1.	Data Transmission	<ul style="list-style-type: none"> Supports transmission of up to 1000 signals. Minimum aggregation: 15 s, refreshed every 5 min Identity protection with Public Key Infrastructure (PKI) Access protection via SSL encrypted connection Integrity protection using cryptographic signatures 	✓	✓	✓
1.2.	Data Access	<ul style="list-style-type: none"> Transparent and flexible user and vessel management allowing data access from single vessels to the whole fleet. Access is only via few highly monitored channels. Data access permitted based on least-privilege model 	✓	✓	✓
1.3.	Data Storage	<ul style="list-style-type: none"> Cyber-secure data storage with unlimited capacity, backed up on EU-based servers. 	✓	✓	✓
1.4.	Cyber security resilience plan	<ul style="list-style-type: none"> Detailed cyber security resilience plan available to support your cyber security certification according to latest IMO and IACSs rules. 	✓	✓	✓
2.	Onboard Interface (On-Prem REST API)				
2.1.	Signal Metadata	<ul style="list-style-type: none"> Provides a detailed description of all available signals and their metadata. 	✓	✓	✓
2.2.	Timeseries Data	<ul style="list-style-type: none"> Provision of logged timeseries data onboard. 	✓	✓	✓
2.3.	Notifications	<ul style="list-style-type: none"> Provision of Hoppe System alerts and notifications. 	✓	✓	✓
2.4.	Signal Health	<ul style="list-style-type: none"> Retrieves all signal health information. 	✓	✓	✓
3.	Onshore Interface (Cloud REST API)				
3.1.	Ship & Signal Metadata	<ul style="list-style-type: none"> Provides a detailed description of all available signals and their metadata. 		✓	✓
3.2.	Time Series Data	<ul style="list-style-type: none"> Provision of exported timeseries data in the cloud. 		✓	✓
3.3.	Events & Alarms	<ul style="list-style-type: none"> Provision of exported Hoppe System alerts and notifications. 		✓	✓
3.4.	Raw Data	<ul style="list-style-type: none"> File based provision of raw export data. 		✓	✓
4.	Remote Support				
4.1.	Data Logging Configuration	<ul style="list-style-type: none"> Flexible configuration of exported signals and the data aggregation interval and export schedule. 		🕒 (1 per year)	✓
4.2.	Remote Software Updates	<ul style="list-style-type: none"> Direct provision of regular software updates to Hoppe Connect Devices including latest features and improvements 		—	✓
4.3.	Remote diagnostics	<ul style="list-style-type: none"> Remote access to high resolution data and advanced system and software information. 		—	🕒 (On request ¹)
5.	Remote Troubleshooting				
5.1.	System Status	<ul style="list-style-type: none"> Collection and review of actual system status, configuration parameters, and software versions. 			
5.2.	Operation & Alert History	<ul style="list-style-type: none"> Complete history of alarms, events, and operational actions to trace system behavior and reconstruct faults. Remote access to error reports and system logs. 		🕒 (On request ¹)	

Pos.	Name	Description	Service Connection	Data Butler	Data Inspector
6.	Fleet Connect Service Portal				
6.1.	Documentation	<ul style="list-style-type: none"> Access to ship specific system documentation. 	✓	✓	✓
6.2.	Spare Parts	<ul style="list-style-type: none"> Access to ship specific spare parts catalogue. 	✓	✓	✓
6.3.	System Health	<ul style="list-style-type: none"> Full insight into data transmission status and onboard system health. 	✓	✓	✓
6.4.	Explorer	<ul style="list-style-type: none"> Basic signal visualization and basic data download. 	✓	✓	✓
6.5.	Bulk Download	<ul style="list-style-type: none"> Advanced download for long periods and large data packages 		✓	✓
6.6.	Signal Quality	<ul style="list-style-type: none"> Analysis and Feedback of signal quality. Advanced signal quality checks and criteria. 		 (Signal Limit ²)	✓
6.7.	Signal Analyzer	<ul style="list-style-type: none"> Advanced data visualization including timeseries and scatter plots. Fully customizable visualization templates. 		 (Signal Limit ²)	✓
6.8.	Reports	<ul style="list-style-type: none"> Generation of reports summarizing data for voyage or noon reporting. Fully customizable report templates. 		 (Signal Limit ²)	✓
6.9.	eMail Alerts	<ul style="list-style-type: none"> Customizable email alerts for system alerts and operational events. 		 (Basic Notifications ³)	✓
7.	Premium Services				
7.1.	Onboarding	<ul style="list-style-type: none"> Hands on training about usage of Fleet Connect Service Portal and our APIs. 	✓	✓	✓
7.2.	Commissioning Signal Review	<ul style="list-style-type: none"> Signal quality check and review 2 months after commissioning. 		—	✓
7.3.	Ship to Shore Care	<ul style="list-style-type: none"> Monitoring and proactive troubleshooting on connection issues. Continuous check of transmission status and pro-active email notification on transmission issues. 		✓	✓
7.4.	Onboard System Care	<ul style="list-style-type: none"> Daily check of onboard system health status and proactive onboard support. 		—	✓
7.5.	Signal Quality Care	<ul style="list-style-type: none"> Proactive signal quality monitoring and troubleshooting Continuous data quality monitoring of up to 50 signals pro-active follow up ensures consistency, validity and plausibility. 		—	✓
7.6.	Advanced	<ul style="list-style-type: none"> Technical Service Hotline - Working Day 9am - 5pm 48h e-mail Response / Notification 1h Service Inhouse (SIH) per vessel and month for general troubleshooting included (e.g. 20 vessel = 20 h included) 		—	✓

1 On Request: For troubleshooting or ad hoc analyses during Data Inspector Service or Service Inhouse (SIH).

2 Signal Limit: This feature is available with basic functionality and a limited scope of signals.

3 Basic Notifications: This feature is only available with service notifications, not operational notifications.