



**QDC026 FLATFIT  
QUIET AIR FLUID  
COOLER, UP TO 850 V DC**

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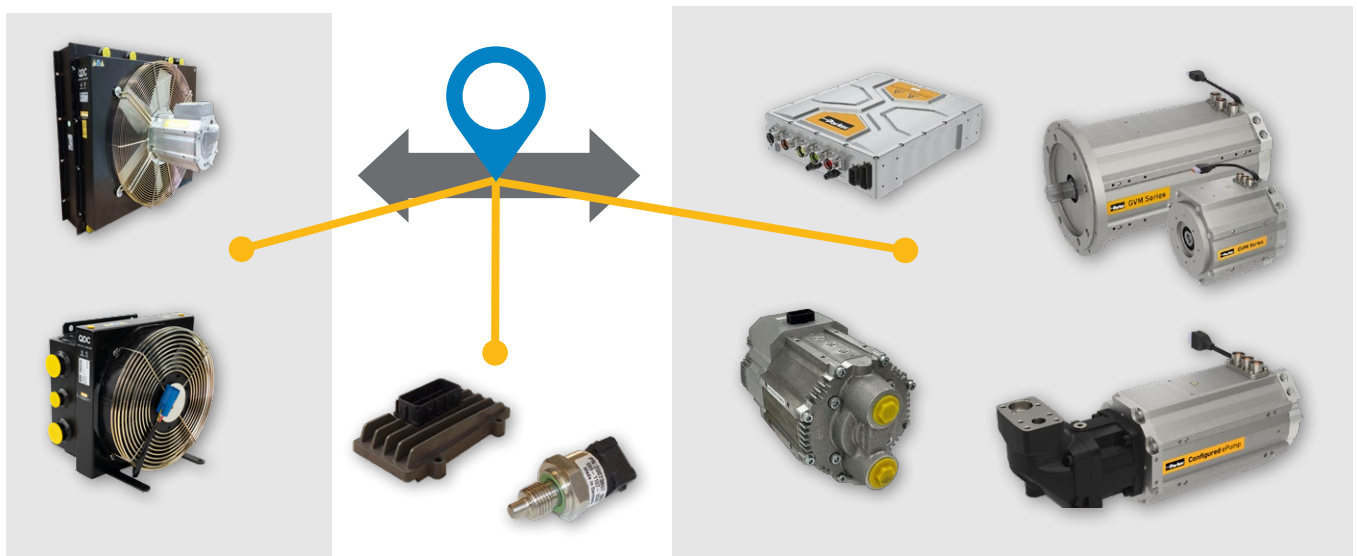
# ONE STOP SHOP FOR THERMAL MANAGEMENT

## Benefit from Parker's Unrivalled Product Range

Complex new technologies and components are needed to electrify trucks. Only compact and modular solutions will resolve the challenges for on-road and off-road trucks with work functions when designing next generation electric vehicles. Here

Parker has the reliable and efficient integrated solution for you. The Water Glycol QDC cooling system is designed to integrate with Parker's highly efficient GVM Motor in combination with Parker's GVI Inverters. This is coupled with an extensive

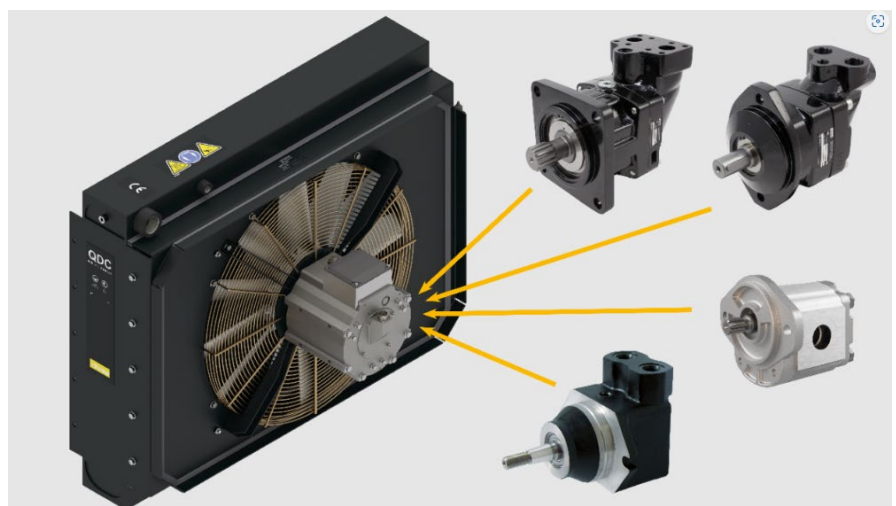
range of hydraulic pumps and filtration. Further design simplification allows integration of other components from Parker's broad breath of products including the IQAN control system and integrated sensors.



## Perfect Combination for high cooling performance

The hydraulic motors and radiators from Parker are perfectly coordinated with the coolers. Together, they ensure top performance in thermal management. A wide range of hydraulic motor technologies guarantees optimal adaptation to the individual requirements of each application.

- Very high power density
- Speeds up to 15 000 rpm available
- Rugged in harsh environments
- "Air flow on demand": multiple options to control speed versus cooling needs
- Strong bearing to compensate all loads caused by impeller weight
- Reverse rotation if needed to clean or to heat-up the fluid at start-up
- Space-saving installation between radiator and impeller



# PARKER'S QDC RANGE

## Cool Solutions for Electrifying Technologies

The Parker QDC air fluid cooler series offers a unique cooling solution for the electrified, mobile market.

Among the series' most outstanding features are:

- High power density: The QDC offers four times higher power density than the LDC series.
- High efficiency. Integrated inverter controls the rotation speed with a standard PWM signal to reduce the power consumption to the minimum required RPM to dissipate the power out of the fluid.
- High noise reduction. The highly efficient design of the Parker heat exchanger turbulator together with the rotation speed control ensures quiet operation, suitable for operation even in noise emission reduced areas.
- This series can be fitted optionally with an IQAN controller, smart 24 V DC water-glycol pump, and a tank system. The maximum cooling capacity is 26 kW at 40 °C, difference in temperature between ambient and cooler inlet, size 017
- The 24 VDC series features the same dimensions as the LDC series, yet offers improved matrix options. The brushless FAN drive comes with an integrated inverter for ideal efficiency



### QDC Quiet Air Fluid Cooler 12/24 V DC

- Engineered cooling solutions for mobile vehicles, BEVs, hybrids, and fuel cells
- Suitable for all other thermal management applications with water/glycol or oil
- High power density and highly efficient design
- Integrated inverter for rpm control with PWM signal
- Low noise level design
- Integrated ports for sensorics and bleeding
- Reversible fan direction for cleaning air fins
- IP68 protection
- Harmonized with Parker IQAN Controller and IQAN sensorics
- Optional with cleaning/flashing down to 5 µS/cm

### QDC006 12/24 V DC Cooler System for ePTO's

- Engineered cooling solutions for mobile vehicles, BEVs, hybrids, and fuel cells
- One size fits all Parker ePTO's sizes
- High power density and highly efficient design SlimFit
- Integrated inverter for rpm control with PWM signal for fan and pump
- Low noise level design
- Integrated ports for sensorics and bleeding
- IP68 protection
- Harmonized with Parker IQAN controller and IQAN sensorics

### QDC Quiet Air Fluid Cooler SquareFit, up to 800 V DC

- Engineered cooling solutions for mobile vehicles, BEVs, hybrids, and fuel cells
- Suitable for all other thermal management applications with water/glycol or oil
- High power density and highly efficient design SquareFit
- Optional inverter for rpm control
- Low noise level design
- Integrated ports for sensorics and bleeding
- Reversible fan direction for cleaning air fins
- Fan drive on swivel frame for easy cleaning
- IP68 protection
- Harmonized with Parker IQAN controller and IQAN sensorics
- Optional with cleaning/flashing down to 5 µS/cm

### QDC Quiet Air Fluid Cooler FlatFit, up to 850 V DC

- Engineered cooling solutions for mobile vehicles, BEVs, hybrids, and fuel cells
- Suitable for all other thermal management applications with water/glycol or oil
- Installation depth only 290 mm
- Reduced installation depth 250 mm on request
- High power density and highly efficient design FlatFit
- Integrated inverter rpm control with CAN bus
- Low noise level design
- Integrated ports for sensorics and bleeding
- Fan drive on swivel frame for easy cleaning
- IP68 protection
- Harmonized with Parker IQAN controller and IQAN sensorics
- Optional with cleaning/flashing down to 5 µS/cm

# QDC026 FLATFIT

## One That Fits Into the Smallest Spaces

### Space-saving Cooling Solution for Mobile Vehicles

Parker offers advanced engineered cooling solutions tailored for mobile vehicles, including battery electric vehicles (BEVs), hybrids, and fuel cells. Our systems are also suitable for various thermal management applications utilizing water/glycol or oil. With an installation depth of only 290 mm, and a reduced installation depth of 250 mm available upon request, the new QDC026 FlatFit ensures compatibility with a wide range of vehicle architectures while maximizing space efficiency.

### High Efficiency and Low Noise Design

Our innovative FlatFit design boasts high power density and exceptional efficiency, making it an ideal choice for modern vehicles. The integrated inverter rpm control with CAN bus communication enhances performance while maintaining a low noise level, ensuring a quieter operation. Additionally, the QDC026 FlatFit feature integrated ports for sensorics and bleeding, streamlining installation and maintenance processes.

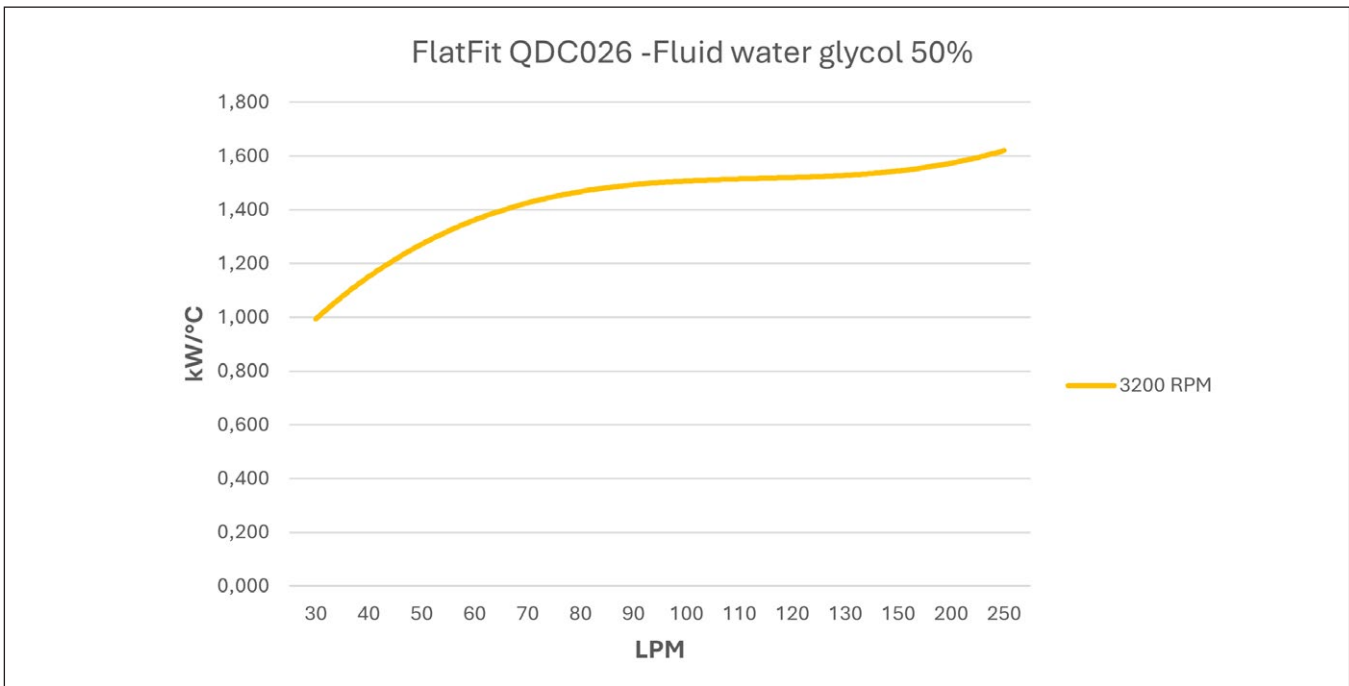
### User-Friendly Features and Robust Protection

Designed for ease of use, the fan drive is mounted on a swivel frame, allowing for effortless cleaning. With an IP68 protection rating, the QDC026 FlatFit is built to withstand harsh environments. It is harmonized with Parker's IQAN controller and IQAN sensorics, providing seamless integration. Optional cleaning and flashing capabilities down to  $5\mu\text{S}/\text{cm}$  ensure optimal performance and reliability, making the QDC026 FlatFit the perfect choice for your thermal management needs!



# TECHNICAL DATA

## Performance Curve



QDC026 FlatFit cooling capacity

## Technical Specifications

<b>Product Type</b>	QDC-026-H-0-00-01SS-F-0-0-0-H
<b>Size</b>	026
<b>Configuration</b>	QDC Liquid Cooler
<b>Input Voltage</b>	up to 850 V DC
<b>Power Supply Voltage</b>	450 to 850 V DC at the Drive Connector
<b>Maximum Cooling Capacity</b>	1.53 kW/C° with Water Glycol Mix 50 % at 3200 rpm at 130 l/min
<b>Rated Speed</b>	800 to 3200 rpm
<b>Current</b>	2.5 A at 3200 rpm and 850 V DC
<b>Connection Thread Size</b>	G 1 ½ Inlet and Outlet, G ½ Sensoric, G 1/8 bleed port
<b>Pressure Drop</b>	0.03 bar at 150 l/min Water Glycol 50 % at 30 °C
<b>Minimum Flow Rate</b>	5 l/min
<b>Maximum Flow Rate</b>	350 l/min
<b>Volume</b>	16.7 l Matrix
<b>Maximum Noise Level</b>	89 dBA at 1m at 3200 rpm
<b>Weight</b>	42.6 kg
<b>Operating Temperature</b>	-40 °C to 100 °C
<b>Minimum Operating Pressure</b>	0.05 bar
<b>Maximum Operating Pressure</b>	21 bar
<b>Length</b>	606 mm
<b>Height</b>	746 mm
<b>Width</b>	293 mm
<b>Signal Input</b>	Inverter integrated, CAN SAE J1939
<b>For Fluid Type</b>	Water Glycol
<b>Cleaning Features</b>	Parker Standard

# ESSENTIAL BENEFITS FOR A WIDE RANGE OF APPLICATIONS

## The QDC026 FlatFit Compared to Chillers

### Advantages of Air Heat Exchangers over Chillers in Electrically Battery-Operated Mobile Machinery

In the realm of electrically battery-operated mobile machinery, effective temperature management is crucial for the performance and longevity of batteries. When selecting an appropriate cooling system, both air heat exchangers, also known as air-fluid coolers, and chillers are available options. While both systems have their specific advantages, air heat exchangers like the QDC026 FlatFit offer several key benefits in many applications.

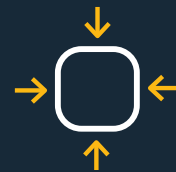


#### Lower Energy Consumption:

Air heat exchangers utilize ambient air for cooling, often resulting in lower energy consumption since additional pumps for circulating chilled water are not required. This is particularly beneficial in applications where energy efficiency is paramount.

#### Compact Design:

Air heat exchangers are typically more compact and require less space than chillers, which often involve larger water tanks and pumping systems. This is especially important in mobile applications where space is limited.



**Reduced Maintenance Needs:** Air-fluid coolers generally have fewer moving parts and require less maintenance than chillers, which necessitate regular inspections and maintenance of pumps and water lines. This leads to lower operating costs and reduced downtime.

#### Simple Integration:

Air heat exchangers can be more easily integrated into existing systems since they do not require special water connections. This allows for more flexible arrangement and installation in mobile machinery.



#### Less Refrigerant Requirement:

Air-fluid coolers do not require refrigerants, making them more environmentally friendly. This reduces the risk of leaks and the need for refrigerant disposal or replenishment.

#### No Water Dependency:

In regions with limited access to water or in applications where water is not readily available, air heat exchangers provide reliable cooling without the need for water connections.



#### Easy Temperature Regulation:

Air heat exchangers can respond rapidly to temperature changes, allowing for precise temperature control of batteries and other components.

# FLATFIT OR SQUAREFIT: YOU HAVE THE CHOICE

## Tailor-made Advantages for Your Individual Application

The choice between a QDC FlatFit and a QDC SquareFit heavily depends on the specific requirements of the application. The FlatFit cooler offers advantages in terms of space savings and integrated control capabilities, while the SquareFit cooler may provide better cooling performance and flexibility in fan selection. The decision should be made considering the specific operating conditions, available space, and maintenance requirements.



**QDC026 FlatFit**

850 V DC  
High Voltage  
Integrated Inverter

**0.25 m<sup>2</sup> | 1.5 kW/°C**  
**2 kW fan power**



**QDC026 SquareFit**

800 V DC  
High Voltage  
Separate Inverter

**0.25 m<sup>2</sup> | 2.0 kW/°C**  
**3 kW fan power**

## General Design Features

### QDC FlatFit

- **Installation Depth:** Very shallow installation depth, making it ideal for applications with limited space.
- **Speed Control:** Equipped with an integrated inverter that allows for a maximum battery voltage of 850 V DC, enabling precise control of the fan speed.
- **Cooling Surface:** Requires a larger surface area to achieve the same cooling performance as the SquareFit due to its flat design.

### QDC SquareFit

- **Installation Depth:** Greater installation depth, providing more space for cooling surfaces and coolant.
- **Speed Control:** Can be equipped with a separate inverter that allows for up to 800 V DC, also enabling precise fan speed control.
- **Cooling Surface:** Requires only about 50 % of the surface area compared to the FlatFit for the same cooling performance.

## Individual Advantages

### QDC FlatFit

- **Space-Saving:** Ideal for compact applications where space is limited, such as in modern vehicles or compact machinery.
- **Integrated Control:** The ability to precisely control fan speed improves energy efficiency and allows for demand-based cooling.
- **Maintenance-Friendly:** The design allows fans to be swung away from the heat exchanger for easy cleaning of the air fins.

### QDC SquareFit

- **Efficient Cooling:** Offers better heat dissipation due to the larger cooling surface, leading to higher cooling performance under constant operating conditions.
- **Modularity:** The modular design allows for the use of different fans with adjustable airflow rates, considering reduced noise levels.
- **Maintenance-Friendly:** Similar to the QDC FlatFit, the QDC SquareFit can also have fans that swing away for cleaning. Additionally, the heat exchanger can be flushed to achieve a conductivity level below 5.

## Application Areas

### QDC FlatFit

- **Use Case:** Particularly suited for applications with limited space, such as modern automobiles, compact machinery, or devices where height and depth are critical.
- **Example Applications:** Electronics enclosures, mobile machinery, vehicle cooling systems.

### QDC SquareFit

- **Use Case:** Ideal for applications where space is less of an issue but high cooling performance is required, such as in large machinery or industrial applications.
- **Example Applications:** Electronics enclosures, fuel cell cooling, mobile machine.





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