

Thermal Management System

Make travel and life better

Company Profile

GUANGZHOU TONGDA AUTO ELECTRIC CO., LTD (Stock Code: SH.603390) is an advanced technical organization which focuses on the development, production and marketing of onboard intelligent management systems, relevant onboard electric devices and other high tech innovative products. TONGDA products are mainly provided for commercial vehicle manufacturers and end-users. The company also aims to explore new transportation market including coaches and medical vehicles.

TONGDA concentrates on developing intelligent and information technology for commercial vehicles. The company has four major series of products include onboard intelligent system, new energy motor and thermal management system, multimedia information publish system for public transportation and onboard components. TONGDA already has more than 600 intellectual properties and has undertaken technical projects in many provinces and cities. The company was rewarded as Guangdong SRDI Enterprise, Guangdong Innovative Experimental Units, Guangdong Province Prize for Progress in Science and Technology etc. The TONGDA objective is to become one of the most competitive onboard products manufacturer in China.





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通达电气
TONGDA ELECTRIC

Company Strength

▼ 300+ technical staff, 600+ core intellectual properties, 50+ patents

- Fluid dynamics
- Thermodynamics
- Electronics
- Microelectronics
- Mechanics



▼ Test certification ability: 3000m2 CNAS Test Lab

- Waterproof Test Room
- Vibration Test Room
- Salt Spray Test Room
- Wind Tunnel Test Room
- EMC Test Room
- Mechanical Performance Test Room
- Electric Specification Test Room
- Lifespan Performance Test Room
- Motor Performance Test Room



▼ Manufacturing Capability: 11m² manufacturing space with automatic production line

- SMT automatic production line
- Automatic automatic coil winding machine
- Fan assembly line
- Dynamometer
- Fans automatic balancing machine
- Fans aging room



▼ Supporting capability: Improve the quality system, with service outlets across the country

- IATF16949 Automotive Quality Management System Certification
- ISO9001 Quality Management System Certification
- GB/T29490-2013 Intellectual Property Management System Certification
- GB/T27922-2011 five-star certification for the evaluation system of after-sales service for commodities



Qualification and Patent



Our Customers



Core Advantages

Technical Advantage

- 1. Advanced technology

Tongda has master core technology which independently develop and produce key components such as DC brushless fans, DC brushless pumps, and controllers. The products employed self-developed core algorithms, real-time temperature monitoring, intelligent thermostatic control; system control include multiple communication modes, with remote upgrade and data storage capabilities.

- 2. Safety guarantee

The products employed reverse dust removal function to prevent radiator blockage; there are multiple protection design for strong safety, and products could satisfy automotive-grade standards, EMC, flame retardant and other standard requirements

- 3. Energy conservation and environmental protection

All the products can be customized, with fully intelligent temperature control, precise control of operating temperature, and extended engine life. The measured energy saving of the product is up to 8% or more.

Marketing advantages

- 1. Widely used

The domestic market share is high and the products are exported to overseas markets; they can be used in all-weather conditions, coastal areas, cold regions, and highland areas.

- 2. Good after-sales service

Long-term on-site service in provincial capitals and multiple OEMs across the country, fast after-sales response and good service.

- 3. Quality Assurance

It is a standard product of many commercial vehicle manufacturers, and has a complete set of technical verification schemes and experience after nearly ten years of large-scale application in the market.

Products

After years of development, intelligent thermal management systems have been widely used in urban public transportation, passenger transportation, engineering machinery, generator sets, light trucks, heavy trucks and other new energy markets. As the earliest domestic enterprise to research and promote intelligent cooling technology, we have a complete and mature technical solution.

● 2022
Hydraulic fuel oil thermal management system

● 2019
Fuel battery thermal management system

● 2015
DC brushless pump

● 2013
Electrical machinery thermal management system

● 2012
Motor thermal management system

● 2011
DC brushless fan

Contents

DC brushless fan
Multiple choices with customization 01

DC brushless pump
Multiple choices with customization 02

ATS-A series
Motor thermal management system-ordinary vehicle type (fuel oil and gas) 03

ATS-B series
Motor thermal management system-hybrid vehicle (oil-electric hybrid, gas-electric hybrid) 03

ATS-H series
Hydrogen fuel battery thermal management system 04

ATS-E series
Motor electronic thermal management system-electric vehicle type 06

▼ DC brushless fan

Multiple choices with customization

The products are mainly used in automotive cooling systems, air conditioners, including passenger cars, buses, trucks, special vehicles, construction machinery, etc.

The product employed a DC brushless motor, which is reliable, energy efficient, and variable frequency speed control. It has features such as soft start, low starting current, and low inrush current. It has overvoltage/undervoltage protection, stall protection, reverse connection/over-current protection, and meets the requirements of EMC national standard level 3 and QC/T773 standards. It has passed E-mark and explosion-proof certification.



Soft boot



Energy saving



Multiple protection

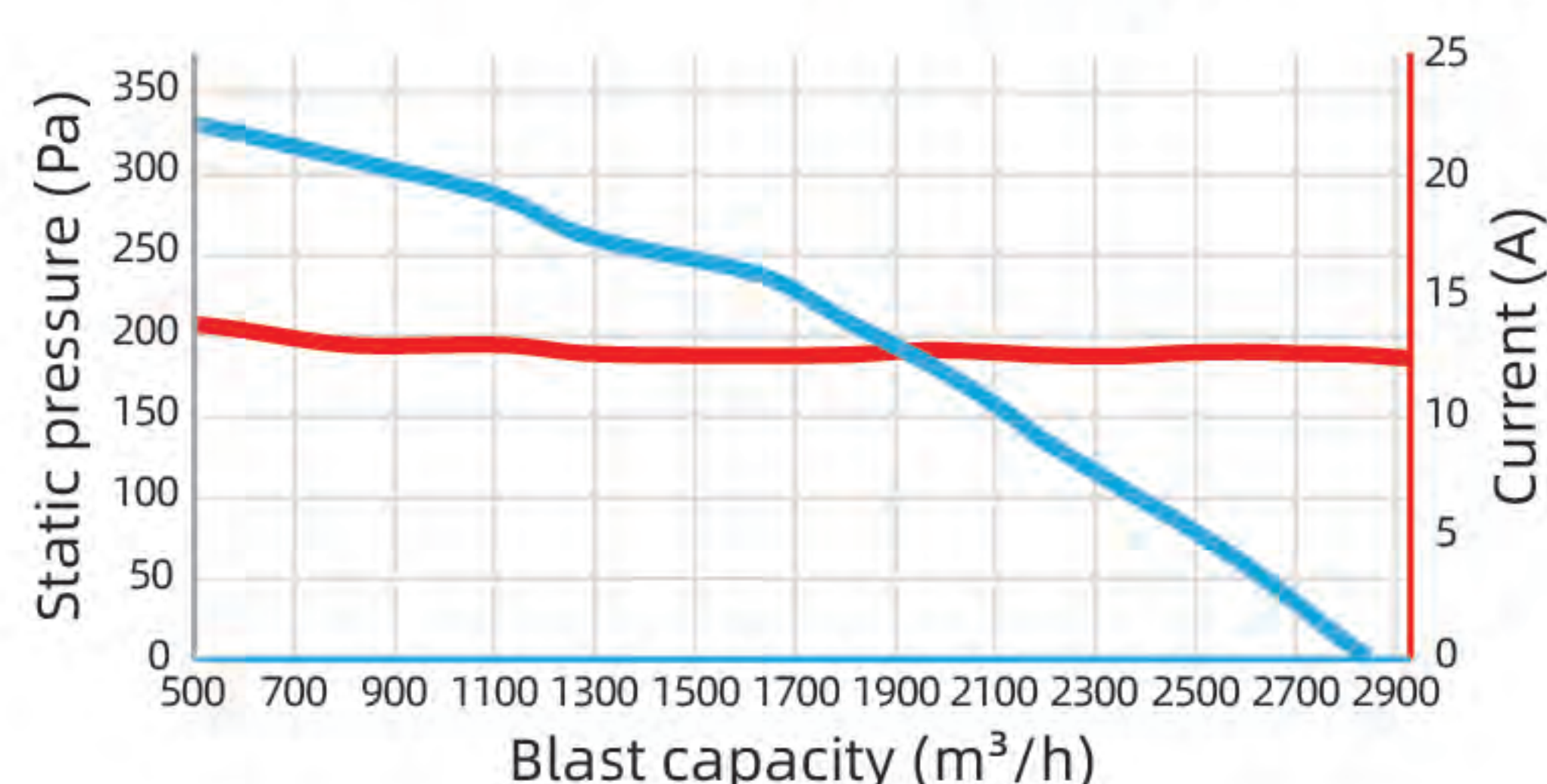


Widely used



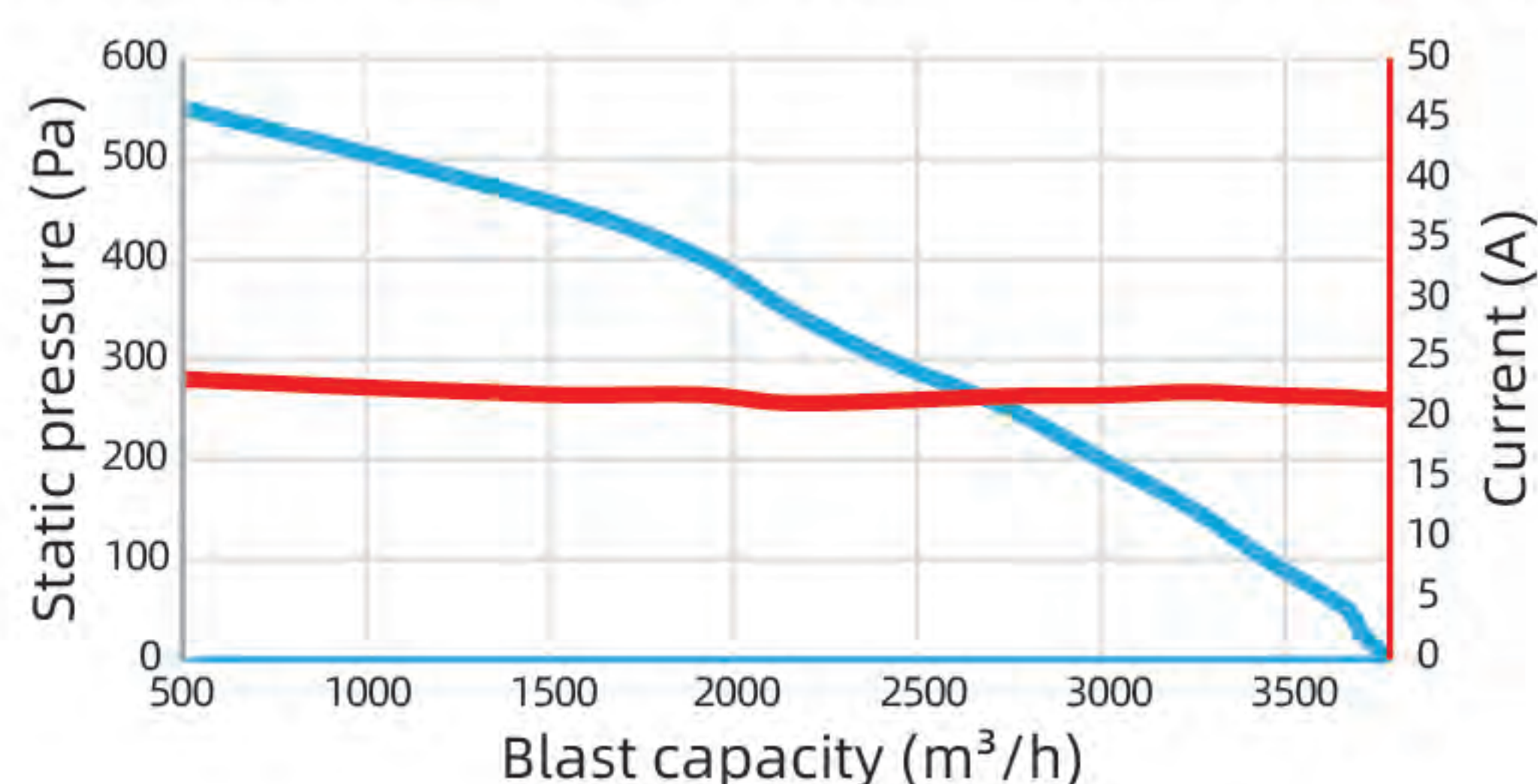
300W TD-C-27-HP0BA0

Maximum current: 13A Maximum speed: 3400rpm



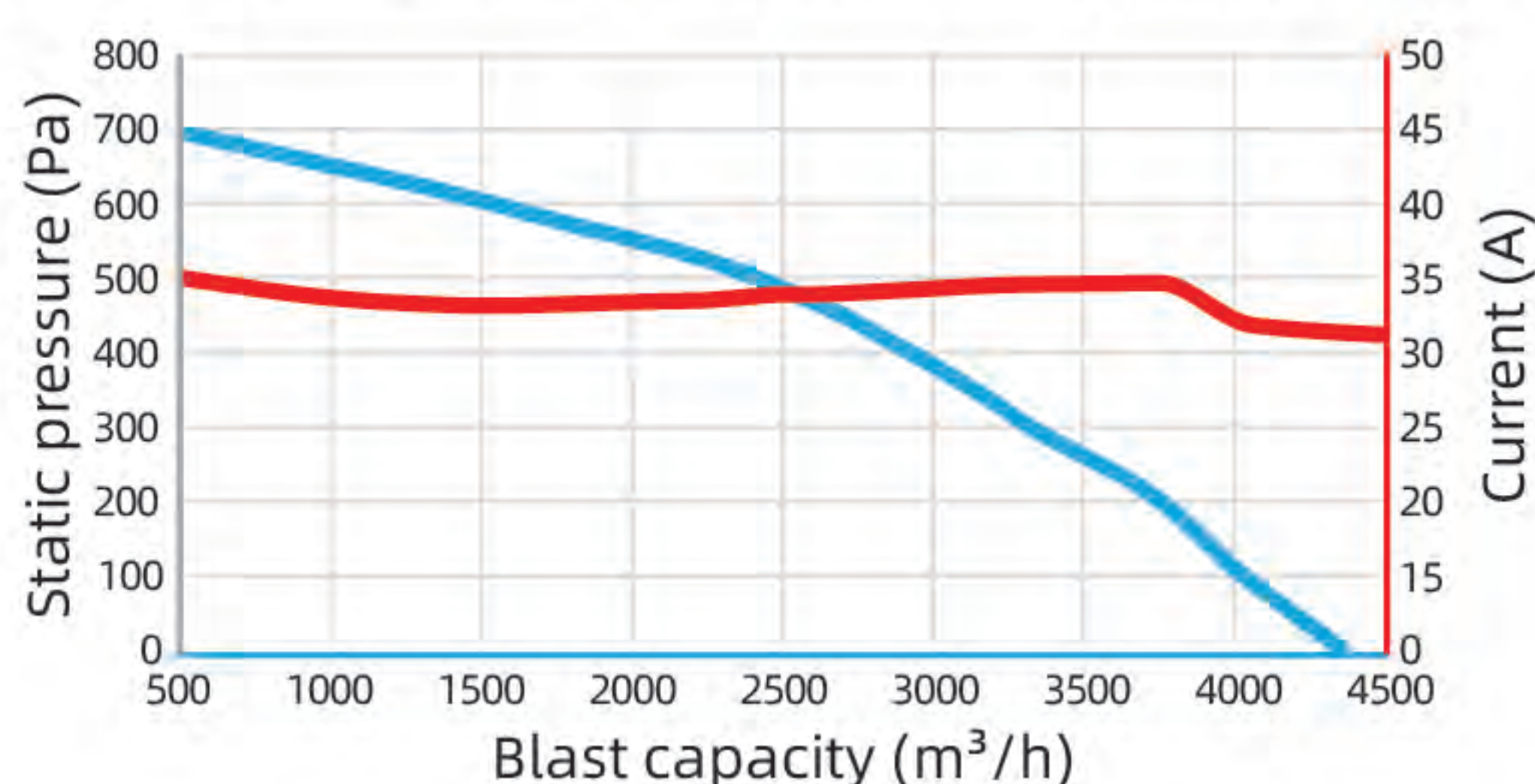
500W TD-C-27-HP0BA3

Maximum current: 22A Maximum speed: 4100rpm



800W TD-C-27-HP0BA8

Maximum current: 34A Maximum speed: 4720rpm



▼ DC brushless pump

Multiple choices with customization

The product is applied to thermal management systems and air conditioners for new energy vehicles (passenger cars, trucks, special vehicles, construction machinery, etc.), with advantages of high lift, low noise, and high efficiency; using DC brushless motors, with good reliability; with soft start protection, low impact current; with overvoltage and undervoltage protection, when the voltage exceeds the use range, the pump stops running, and when the voltage recovers, the pump resumes running; with locked-rotor protection, when the pump is stuck by foreign objects, it stops running, and after removing the foreign objects, the pump resumes normal operation; with reverse connection protection, when the positive and negative poles are connected reversely, the pump will automatically power off for protection, and after the connection is normal, the pump resumes; meeting the requirements of EMC national standard level III and industry standard requirements.



Long service life



IP68



Low power



Low noise



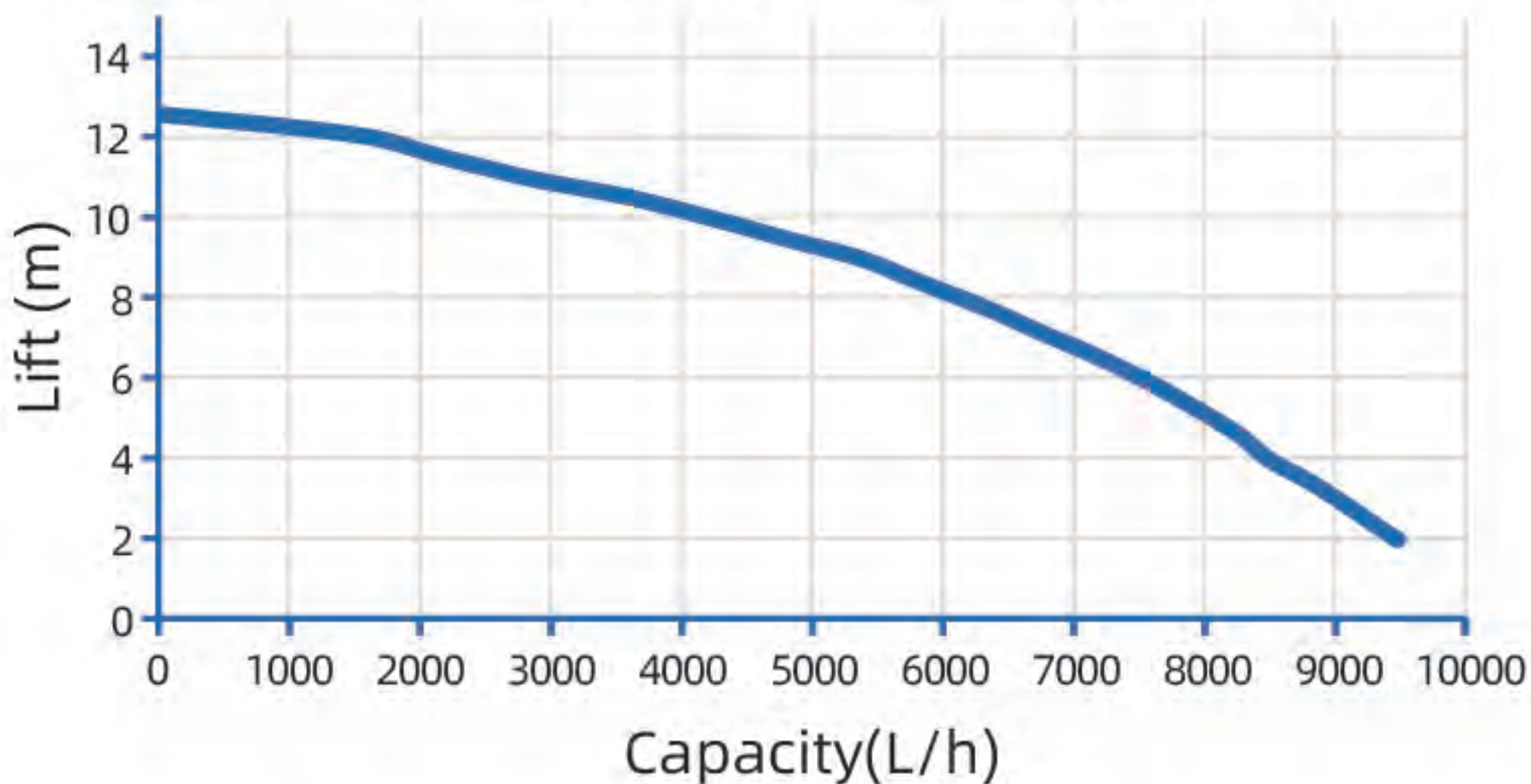
Specifications

- Medium:antifreeze or coolant
- Operation temperature:-40°C~+85°C
- Medium temperature:-40°C~+85°C
- Rated voltage:DC24V
- Protection level:IP68
- Protection:overvoltage,undervoltage,stall,reverse,over-current,dry transfer
- Lifespan:≥20000h



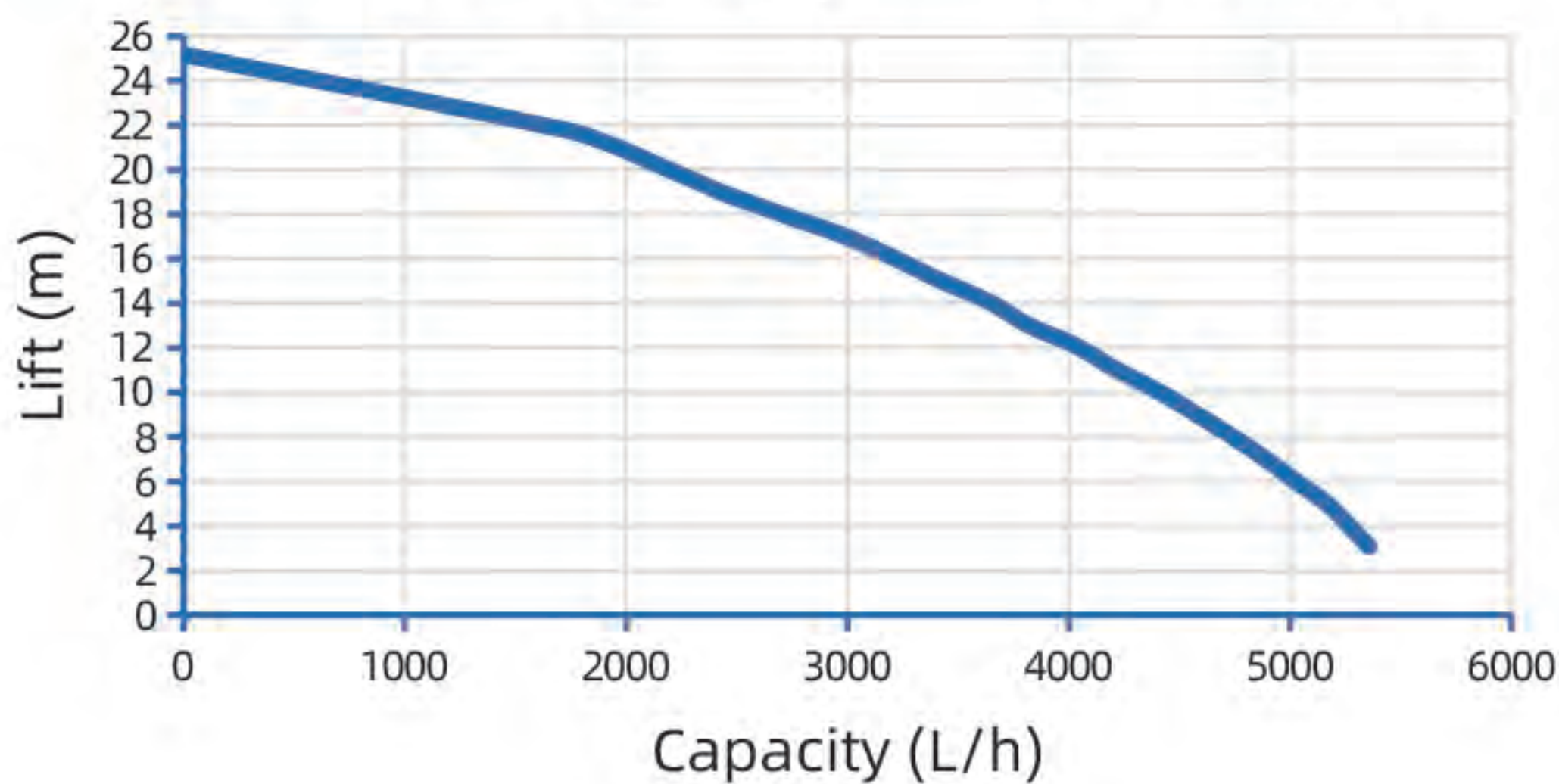
High-capacity brushless electric pump TD-C-42-HTC8A0

Max lift and capacity: 8000L/h及11m



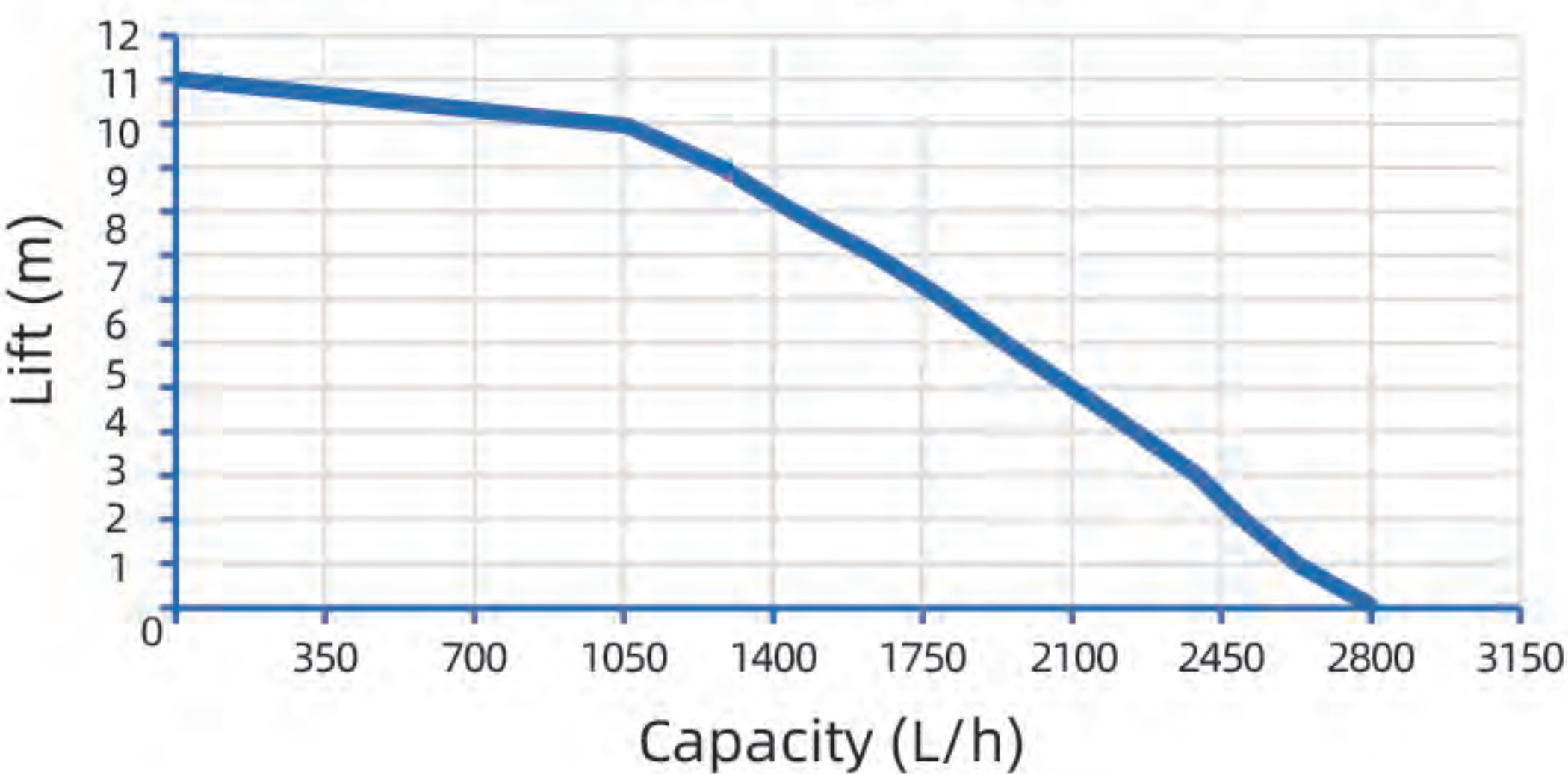
High lift brushless electric pump TD-C-42-HTC5A0

Max lift and capacity: 5000L/h及23m



Low power brushless electric pump TD-C-34-HTA3A0

Max lift and capacity: 2800L/h及11m



▼ **ATS-A01**

Motor thermal management system
ordinary vehicle (fuel oil or gas)



▼ **ATS-B02**

Motor thermal management system
hybrid vehicle (oil-electric hybrid, gas-electric hybrid)



▼ **Product Features**

- ①Intelligent constant temperature, real-time temperature monitoring, high adjustment accuracy, on-demand drive;
- ②Brushless adjustable fan, long service life, low noise, soft start;
- ③ Parallel structure, integrated design;
- ④ Power-on self-test reverse dust removal, one-click forced start mode;
- ⑤Multiple communication modes are docked, with data storage and uploading functions reserved.

Vehicle type	8m-12m level fuel oil/gas
Standard cooling power rate	Motor cooling device 80-120KW Intercooler 25-40KW
Fans	6
Fans power	300W ~ 800W
Voltage	DC24V
Water tank material	Copper or aluminum

▼ **Product Features**

- ①Intelligent constant temperature, real-time temperature monitoring, high adjustment accuracy, on-demand drive;
- ②Brushless adjustable fan, long service life, low noise, soft start;
- ③ Compact parallel structure and integrated design;
- ④ Power-on self-test reverse dust removal, one-click forced start mode;
- ⑤Multiple communication modes are docked, with data storage and uploading functions reserved.

Vehicle type	8m-12m level hybrid
Standard cooling power rate	Motor cooling device 80-100KW Intercooler 25-35KW Electric machine cooling device 10-20KW
Fans	6
Fans power	300W ~ 800W
Voltage	DC24V
Water tank material	Copper or aluminum

▼ **ATS-H01**

Hydrogen fuel battery thermal management system



▼ **Product Features**

- ①Intelligent temperature control, real-time temperature monitoring, high adjustment accuracy, on-demand drive;
- ②Brushless adjustable fan, long service life, low noise, soft start;
- ③ Low conductivity, fan protection rating IP68;
- ④ Power-on self-test, one-click forced restart mode;
- ⑤Multiple communication modes, data storage and uploading functions

Conductivity	Rest 48h≤5μs/cm
Standard thermal design power	≤50KW (Temperature difference 35°C, water-carrying capacity 100L/min, wind speed 6m/s)
Fans	2
Fans power	500W ~ 800W
Voltage	DC24V
Water-tank material	Fin aluminum

▼ **ATS-H02**

Hydrogen fuel battery thermal management system



▼ **Product Features**

- ①Intelligent temperature control, real-time temperature monitoring, high adjustment accuracy, on-demand drive;
- ②Brushless adjustable fan, long service life, low noise, soft start;
- ③ Low conductivity, fan protection rating IP68;
- ④ Power-on self-test, one-click forced restart mode;
- ⑤Multiple communication modes, data storage and uploading functions

Conductivity	Rest 48h≤5μs/cm
Standard thermal design power	≤65KW (Temperature difference 35°C, water-carrying capacity 100L/min, wind speed 6m/s)
Fans	3
Fans power	500W ~ 800W
Voltage	DC24V
Water-tank material	Fin aluminum

▼ **ATS-H03**

Hydrogen fuel battery thermal management system



▼ **ATS-H04**

Hydrogen fuel battery thermal management system



▼ **Product Features**

- ①Intelligent temperature control, real-time temperature monitoring, high adjustment accuracy, on-demand drive;
- ②Brushless adjustable fan, long service life, low noise, soft start;
- ③ Low conductivity, fan protection rating IP68;
- ④ Power-on self-test, one-click forced restart mode;
- ⑤Multiple communication modes, data storage and uploading functions

Conductivity	Rest 48h≤5μs/cm
Standard thermal design power	≤90KW (Temperature difference 35°C, water-carrying capacity 150L/min, wind speed 6m/s)
Fans	4
Fans power	500W ~ 800W
Voltage	DC24V
Water-tank material	Fin aluminum

▼ **Product Features**

- ①Intelligent temperature control, real-time temperature monitoring, high adjustment accuracy, on-demand drive;
- ②Brushless adjustable fan, long service life, low noise, soft start;
- ③ Low conductivity, fan protection rating IP68;
- ④ Power-on self-test, one-click forced restart mode;
- ⑤Multiple communication modes, data storage and uploading functions

Conductivity	Rest 48h≤5μs/cm
Standard thermal design power	≤150KW (Temperature difference 35°C, water-carrying capacity 160L/min, wind speed 6m/s)
Fans	8
Fans power	500W ~ 800W
Voltage	DC24V
Water-tank material	Fin aluminum

▼ **ATS-E01**

Electric motor electronic thermal management system
electric vehicle



▼ **Product Features**

- ① Intelligent temperature control, real-time monitoring by sensors, stepless speed control by electronic fans and heat dissipation on demand;
- ② ECU communicates with CAN bus and can be controlled by CAN signals;
- ③ Fan self-inspection achieves reverse dust removal, reduces fan operating load and ensures system cooling efficiency.

Vehicle type	6m-10m electric
Standard thermal design power	15 (Temperature difference 30°C, water-carrying capacity 40L/min)
Fans	1
Fans power	300W ~ 500W
Voltage	DC12V/DC24V
Water-tank material	Fin aluminum

▼ **ATS-E02**

Electric motor electronic thermal management system
electric vehicle



▼ **Product Features**

- ① Intelligent temperature control, real-time monitoring by sensors, stepless speed regulation by electronic fans, and heat dissipation on demand;
- ② CAN communication function;
- ③ Fan self-inspection enables reverse dust removal, reduces fan operating load, and ensures system cooling efficiency.

Vehicle type	6m-10m electric
Standard thermal design power	25 (Temperature difference 30°C, water-carrying capacity 40L/min)
Fans	2
Fans power	300W ~ 500W
Voltage	DC12V/DC24V
Water-tank material	Fin aluminum



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