NAVNIX
纳 惟 信

Hydraulic / E-Brake
Solutions Provider

Integrated Hydraulic & Electro-hydraulic Braking Solutions Provider



Qingdao NAVNIX Power Tech Co., Ltd. NAVNIX Ltd.

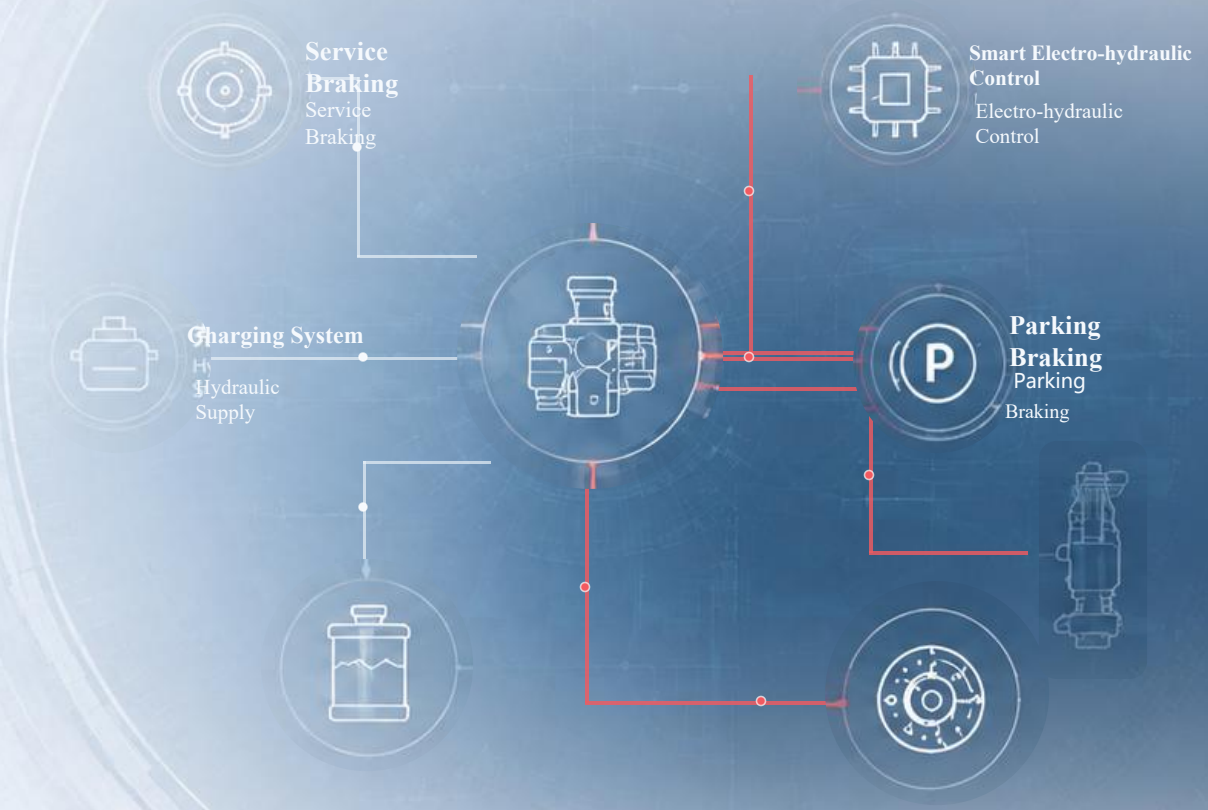
Since 2020

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01

About

Company Overview



Company Profile

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Qingdao NAVNIX Power Tech Ltd.

Hydraulic & E-Hydraulic Braking

FROM CORE BRAKING COMPONENTS TO SYSTEM SOLUTION CAPABILITIES

Developing hydraulic and electro-hydraulic braking systems for off-highway vehicles worldwide

Safe, reliable solutions for construction, mining, and special-purpose vehicles

Core team: 15+ years with leading braking systems

Reproduced all competitor failure modes

2020
Established
April 2020

180,000
Annual Capacity
2026 Capacity

TOP 1
Market Share
Domestic Market Share

100+
Product Modules
Complete Product Portfolio

300+
Customers
Long-term Partnerships

30%
Export Share
Exported with OEM Equipment

Development History

2019-2020
R&D Launch
Launched R&D for off-highway vehicle braking systems in 2019.
NAVNIX was formally established in 2020, laying the technical foundation.

2020-2022
Commercial Breakthrough
Achieved volume deliveries and revenue generation in 2020.
Joined the supply chains of many industry leaders in 2022.

2022-2024
Segment Leadership
Expanded into construction machinery, mining equipment, and coal-mine safety vehicles.
Built leading positions across multiple market segments.

2025-2026
System Upgrade
Leading the hydraulic-control industry while expanding system-level
product capabilities and advancing into a higher-quality growth stage.

Product Portfolio

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Service Braking Products

Controls braking force while the vehicle is in motion

- **Brake valves**
  Single/dual-circuit, pilot and reverse valves
- Relay valves
  Relay and dual-circuit relay valves
- **Proportional valves**
  Electro-hydraulic proportional valves



Charging System

Stable pressure supply for braking

- **Charging valves**
  Single/dual-circuit and relief valves
  High-flow valves and more
- **Multifunction valves**
  Multifunction and load-sensing valves
- **System components**
  Brackets, reservoirs, accumulators, and more



Braking System Solutions Platform

Parking Brake Products

Enables vehicle parking and fail-safe protection

- **Parking valves**
  Manual and manual/electric valve
  Electronic valve blocks and more
- **Actuators**
  Parking brake cylinders



E-Hydraulic Systems

Controls for intelligent and unmanned equipment

- **Electronic controls**
  Electronic pedals and valve drivers
- **E-hydraulic controls**
  Solenoid and parking valves
  Proportional valves
- **Sensing & protection**
  Pressure/limiting valves

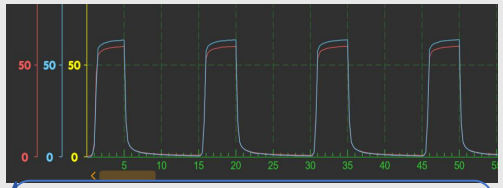


Uses CE Mining Safety Special Robotic .....

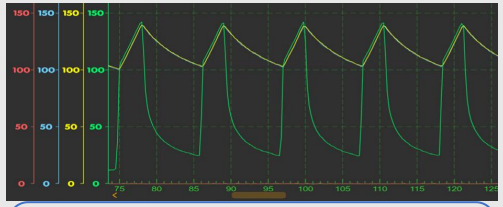
R&D Tests

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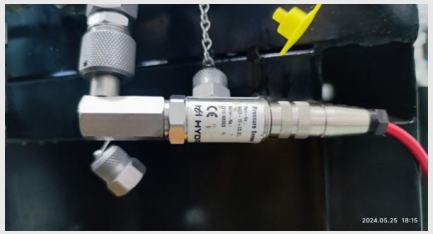


Charging bench & curve data



Brake-valve bench and curve data





Pressure test accuracy: ±0.1%

01 Performance & Reliability

100-cycle end-of-line performance and stability test for every product

Periodic 1,000,000-cycle reliability test

02 Data Acquisition and Storage

High-precision sensors capture test data

All curves and data are archived for 10-year traceability

03 Data Traceability

Each serial number links batch, assembly, and test records

Custom test platforms provide comprehensive product validation to ensure safe, reliable, stable, and durable braking systems

Extreme-Duty Validation

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Four Application Scenarios

01 Autonomous
Safe Autonomous Operation

- Electro-hydraulic proportional brake control
- High modulation accuracy and reliability
- Meets autonomous driving system requirements



02 Underground
Underground Safety

- Meets coal-mine explosion-proof requirements
- Reliable brake modulation
- Corrosion protection for linkage components



03 Key Programs
Vehicle Support

- Braking systems for aircraft tractors supporting the C919 program and missile-loading vehicles
- Stable, reliable braking over extended periods



04 Rescue Vehicles
Extreme-Duty Reliability

- Operates in extreme temperatures
- Highly reliable braking
- Meets stringent special-equipment requirements



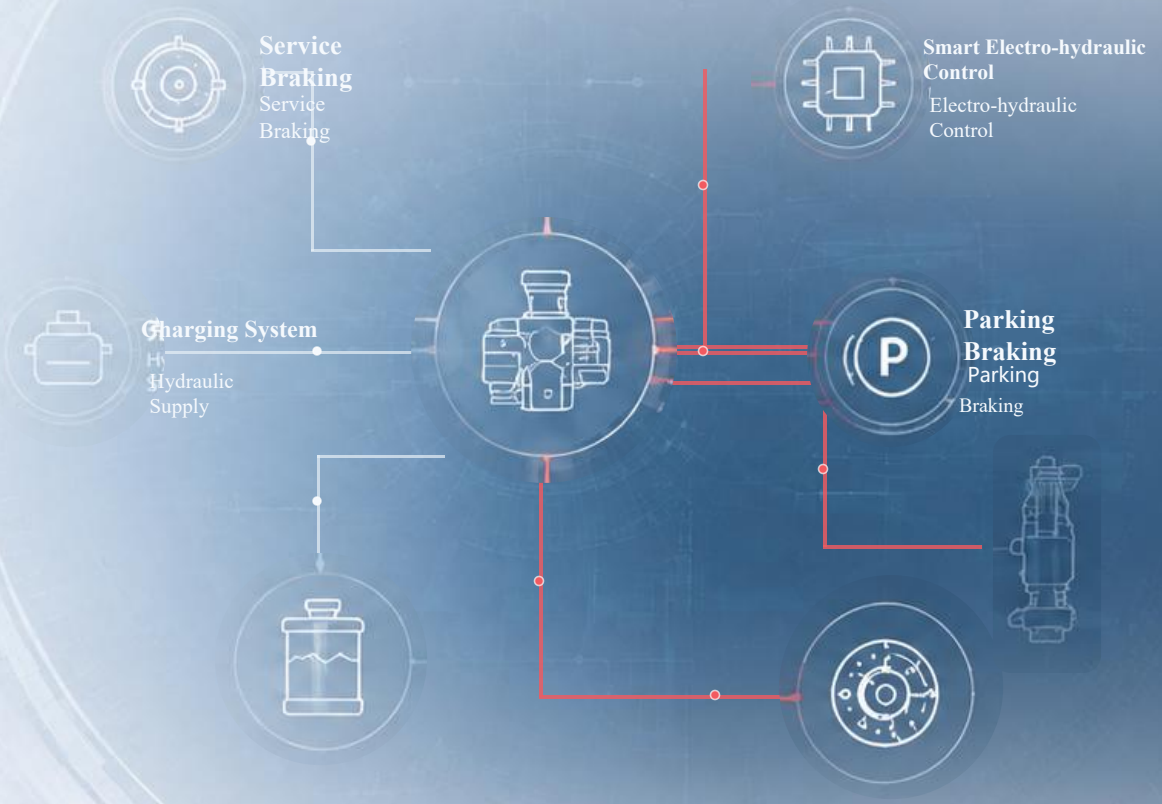
✓ **Validated under severe conditions, the products deliver stable, reliable performance that improves vehicle safety and operating efficiency**

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02

Product

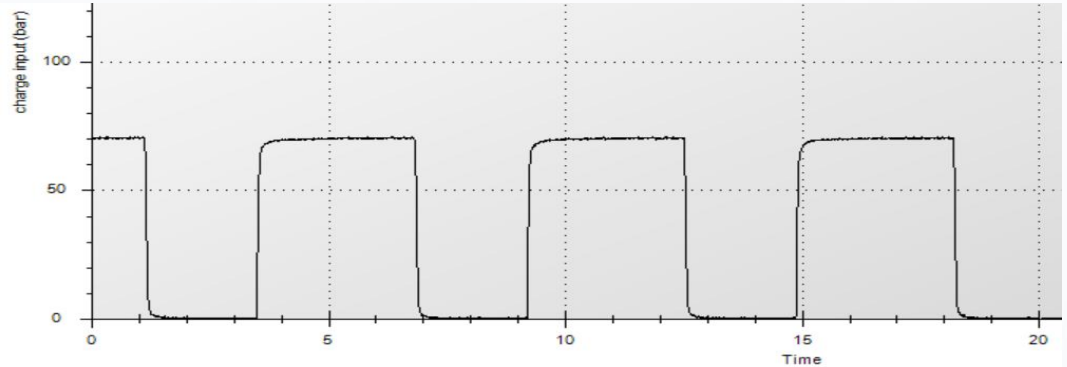
Product Introduction



Brake Valves

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Smooth modulation, strong actuation, low noise and full range



Improves modulation & noise





Single Valve



Tandem Valve



Single PP-Pilot Valve



Tandem PP-Pilot Valve



Relay Valve



Reverse PP-Pilot Valve



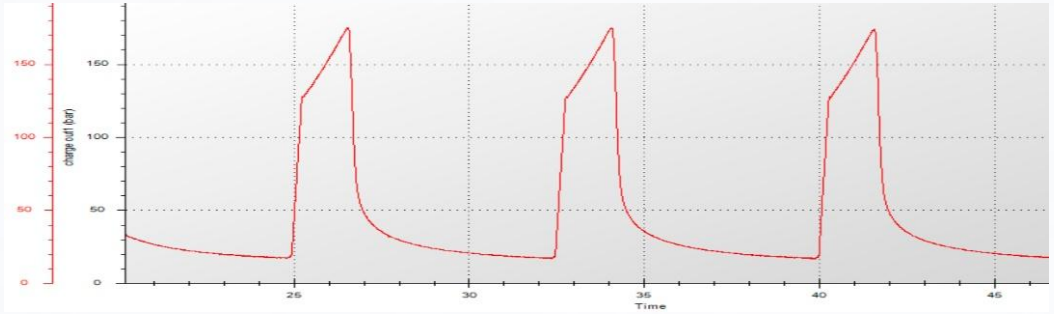
Loader & inching brake valves



Charging Valves

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Wider charging range, stronger spool actuation, full specifications, multifunction integration



Prevents sticking, recharge & overheat

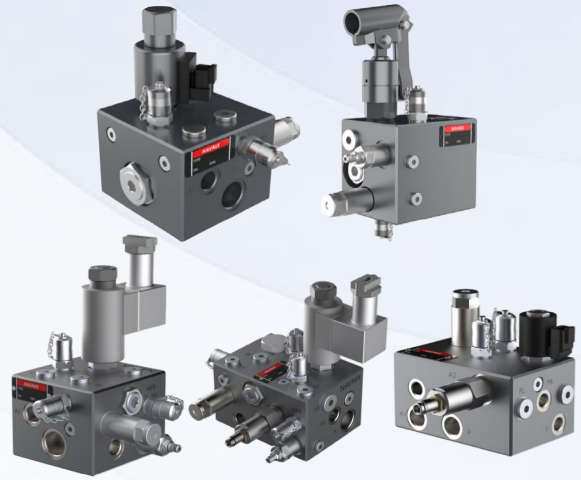
Prevents linkage sticking





Standalone Accumulator Charging Valve

Single-circuit or dual-circuit, with relief-valve and load-sensing options



Multifunction Accumulator Charging Valve

Single-circuit, dual-circuit, and load-sensing configurations

Integrates relief valves, pressure-limiting valves, manual pumps, pressure test ports, coal-mine explosion-proof options, and more, with over 30 configurations

Accumulator Charging Assembly

High-pressure filter, accumulator, and bracket or reservoir assembly



E-Hydraulic Braking

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Smart E-hydraulic braking for autonomous off-highway vehicles

Proportional E-Braking:



Mechanical & Electronic Parking:



Precision Control

Electro-hydraulic proportional control for precise, controllable braking force

Fast Response

Fast response improves braking efficiency and smoothness

Safe Parking

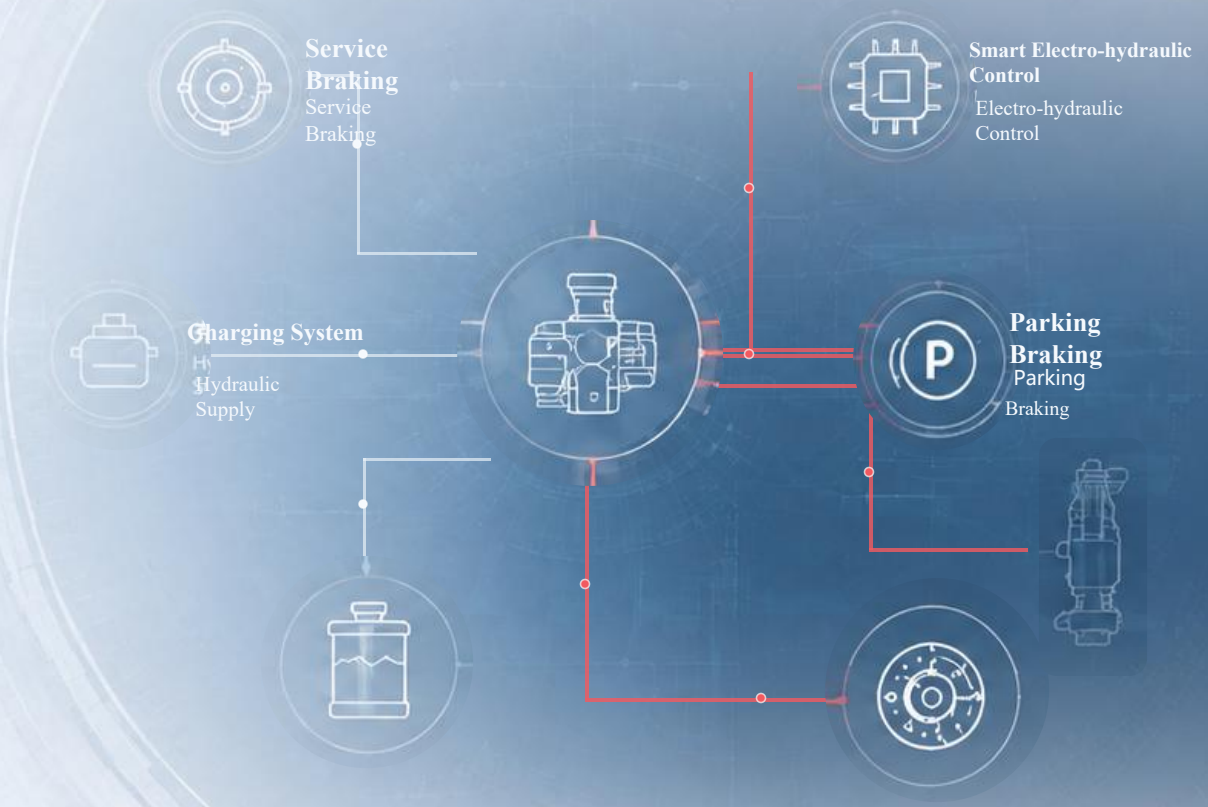
Electronic parking brake control ensures safe, reliable vehicle hold

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03

Partner

Partners



Partners

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Construction

Leading OEMs







XCMG 徐工集团

LiuGong 柳工

SDLG

LONKING 龙工

SHANTUI 山推工程机械股份有限公司 SHANTUI CONSTRUCTION MACHINERY CO., LTD.

LOVOL 雷沃重工

ENSIGN 英轩重工

JINGONG 晋工新能源

ZOOMLION 中联重科

SUNWARD 山河智能

BRETON 博雷顿

国机重装 SINOMACH-HE

Partners

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Tunnel

Leading OEMs







LGMRT 临工矿山

FAMBITION 青岛中鸿重型机械股份有限公司 QINGDAO FAMBITION HEAVY MACHINERY CO.,LTD.

Machinery 兴旺达

DERUI

安期生鑫茂（北京）矿山机械有限公司

JINCHUAN 金川

XCMG 徐工集团

SITON

华泰钻机

志高掘进 ZEGA

耿力机械 GENG LI MECHANICS

Partners

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Mine Vehicles

Leading OEMs





Mine Haulage

Leading OEMs







Partners

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Forklifts

Leading OEMs





HELI合力 | HANGCHA | XCMG 徐工集团 | LiuGong 柳工 | LGMG 临工重机 | maximal 美科斯

Agriculture

Leading OEMs





LOVOL 雷沃重工 | ZOOMLION 中联重科 | 沃得农机 WORLD GROUP | LiuGong 柳工 | 中国铁建 铁建重工 | 五征集团 WUZHENG

Partners

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Mining Trucks

Leading OEMs







XCMG 徐工集团 | SANY 三一重工 | LiuGong 柳工 | LGMG 临工重机 | 中国中车 CRRC | ZOOMLION 中联重科

同力重工 | 宇通重工 | 湘电股份 | TZCO 太重集团

Airport GSE

Leading OEMs





威海广泰 WEIHAI GUANGTAI | 中国航空工业集团公司 AVIATION INDUSTRY CORPORATION OF CHINA

NAVNIX

Every Brake Application

Safer and More Controllable

SAFER BRAKING, SMARTER CONTROL.

Committed to providing customers worldwide with

Safe and reliable braking system solutions

Safeguarding vehicle operation



NAVNIX LTD.

HYDRAULIC & ELECTRO-HYDRAULIC BRAKING SOLUTIONS