COMPANY INTRODUCTION

NINGBO MAIA INTERNATIONAL TRADING CO., LTD.

宁波脉亚进出口有限公司

CONTENTS

COMPANY

PART ONE

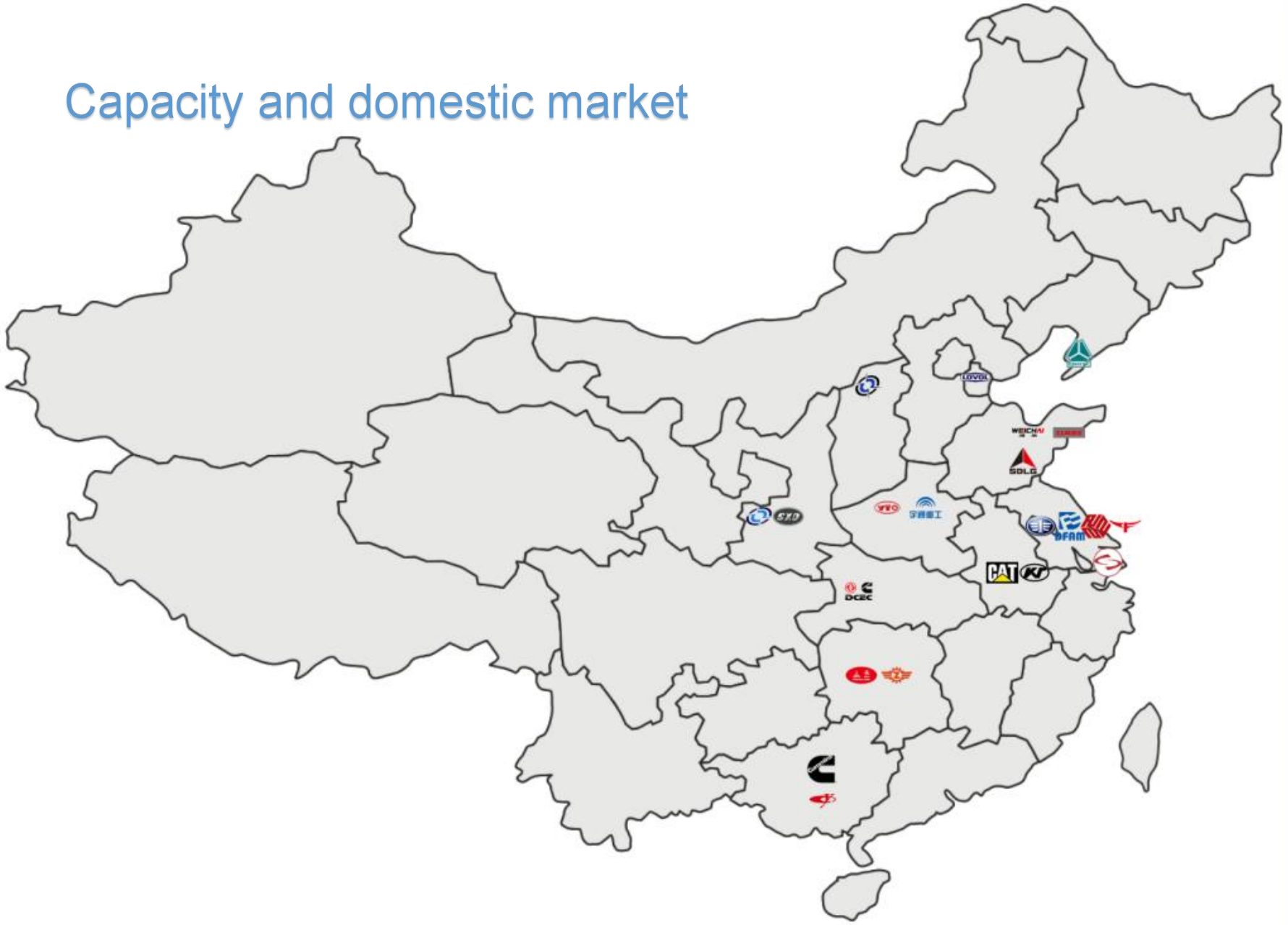
About Maia

1

01 Company profile

We are a vertically integrated manufacturer specializing in torsional vibration dampers and high-precision nonferrous metals castings. With over 20 years of industrial expertise, we serve the automotive, marine, power generation, and new energy sectors worldwide. Our in-house capabilities span from R&D and material science to casting, machining, assembly, and full-performance validation. We are committed to delivering engineered solutions that enhance performance, durability, and efficiency for our global clients.

Capacity and domestic market



国内客户分布

潍柴动力	北方动力	中联重科
潍柴重机	山柴	湖南力宇
博杜安	陕柴	浙江海天
重潍柴	淄柴	浙江盘毂
潍柴液压	一拖	河南华茂
株齿	雷沃	洛阳丰收
东康	江苏沃得	中科原
广康	江苏常发	
一汽大柴	常州东风	
一汽锡柴	徐工	
广西玉柴	徐州凯尔	
玉柴动力	河北锟特	
联合动力	宇通重工	
兵工70所	临工	
三一道依茨	科乐收	
中国重汽	卡特彼勒	
上海新动力	悍沃	
柳工	厦工	

COMPANY

PART TWO

Core Product

2

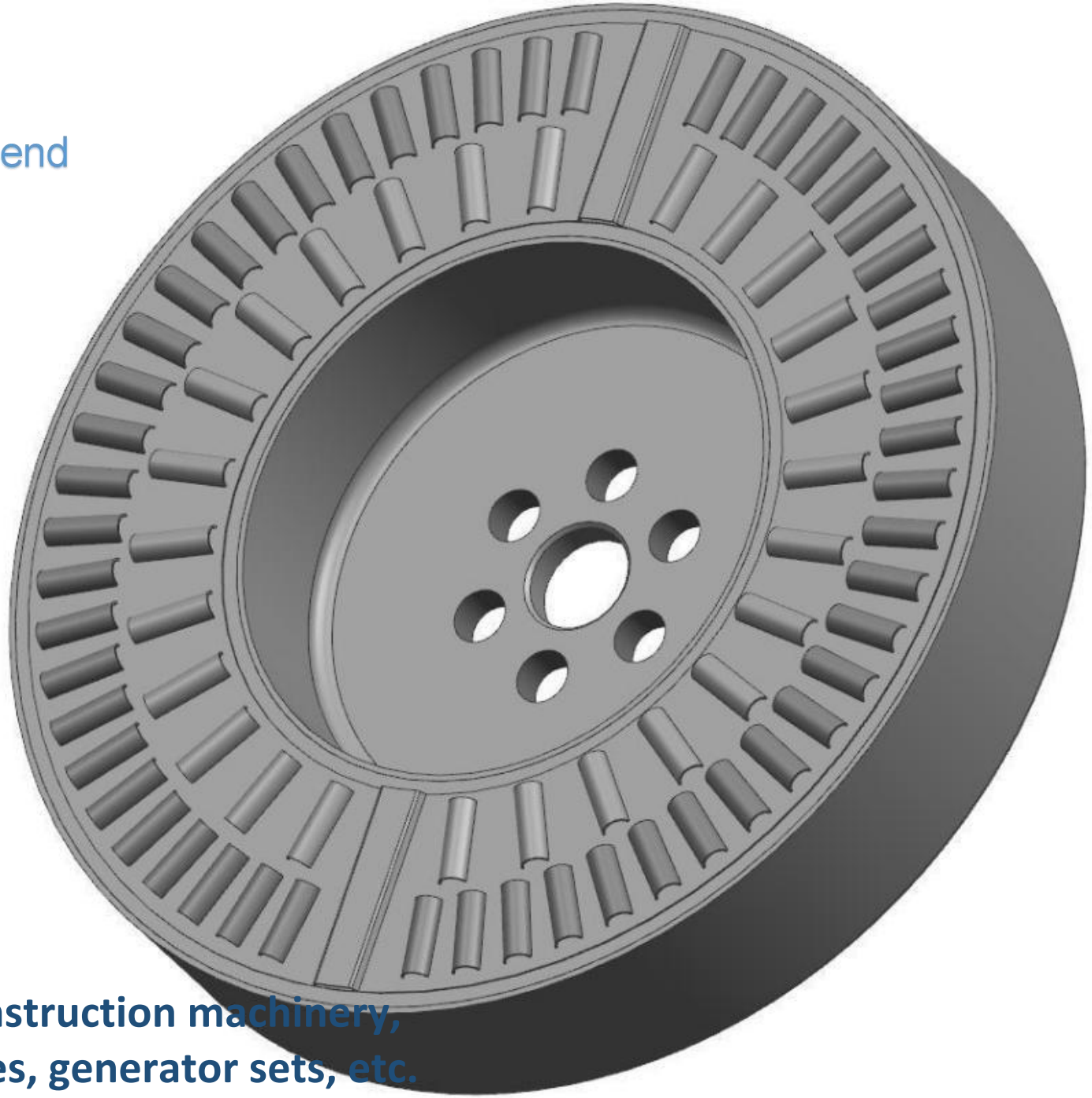
02

Torsional vibration damper at front end

Fluid Damper

Composed of

- Shell
- Supporting ring
- Inertial wheel
- Supporting ring
- Cover plate
- Heat sink



Matched engine power：230～4500

Diameter：210～800mm

Application: Commercial vehicles, construction machinery, agricultural machinery, marine engines, generator sets, etc.

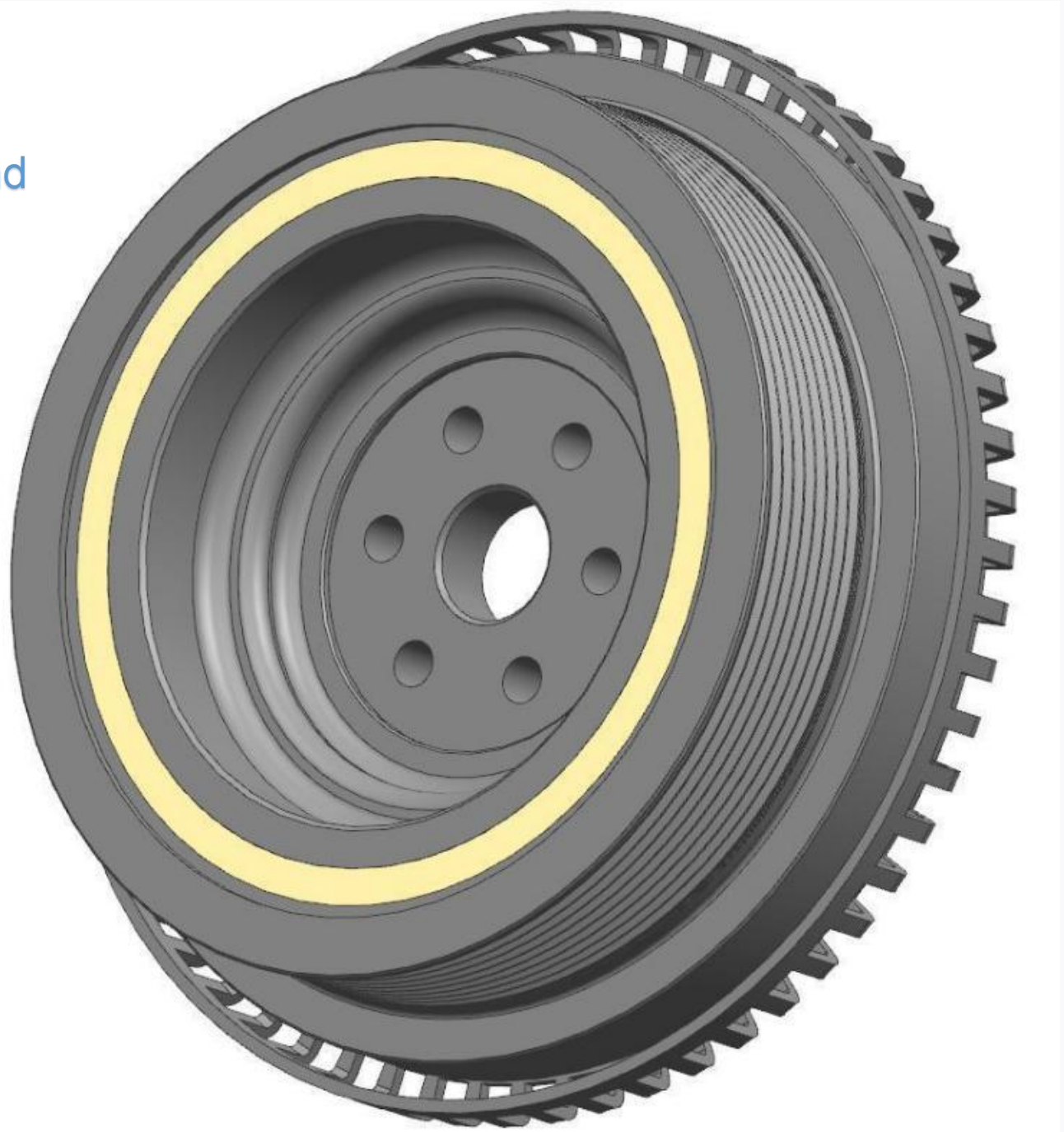
02

Torsional vibration damper at front end

Pully

Composed of

- Inner wheel
- Outer wheel
- Rubber ring
- Signal gear ring



Matched engine power: 150 ~ 320HP

Diameter: 120 ~ 240mm

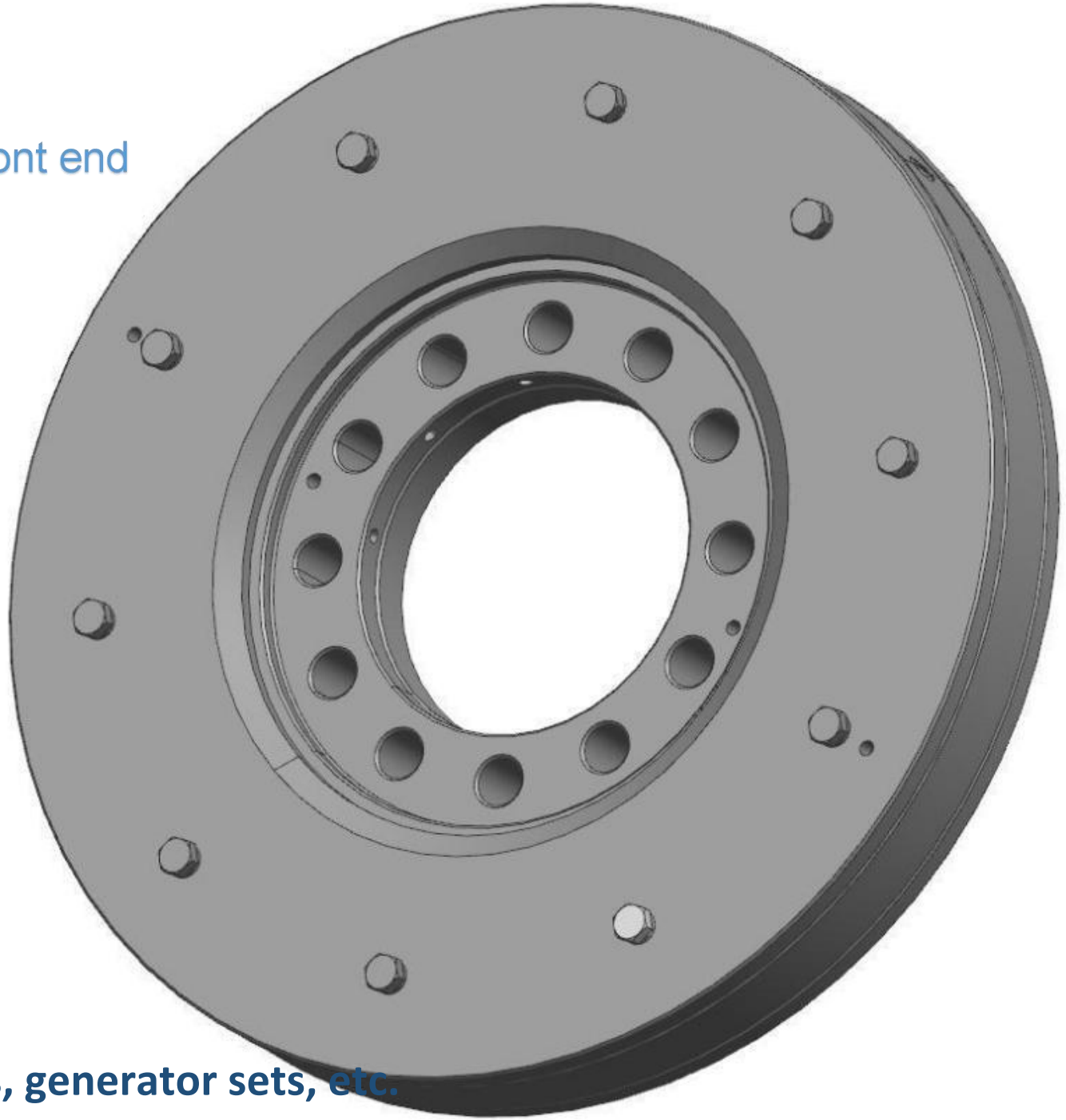
Application: Commercial vehicles, co
machinery, agricultural machinery, g

02

Torsional vibration damper at front end

Coil sping damper

Composed of
- Inner wheel
- Outer wheel
- Coil spings
- Cover plates
- Bolts



Matched engine power: 1000 ~ 5000HP

Diameter: 500 ~ 1000mm

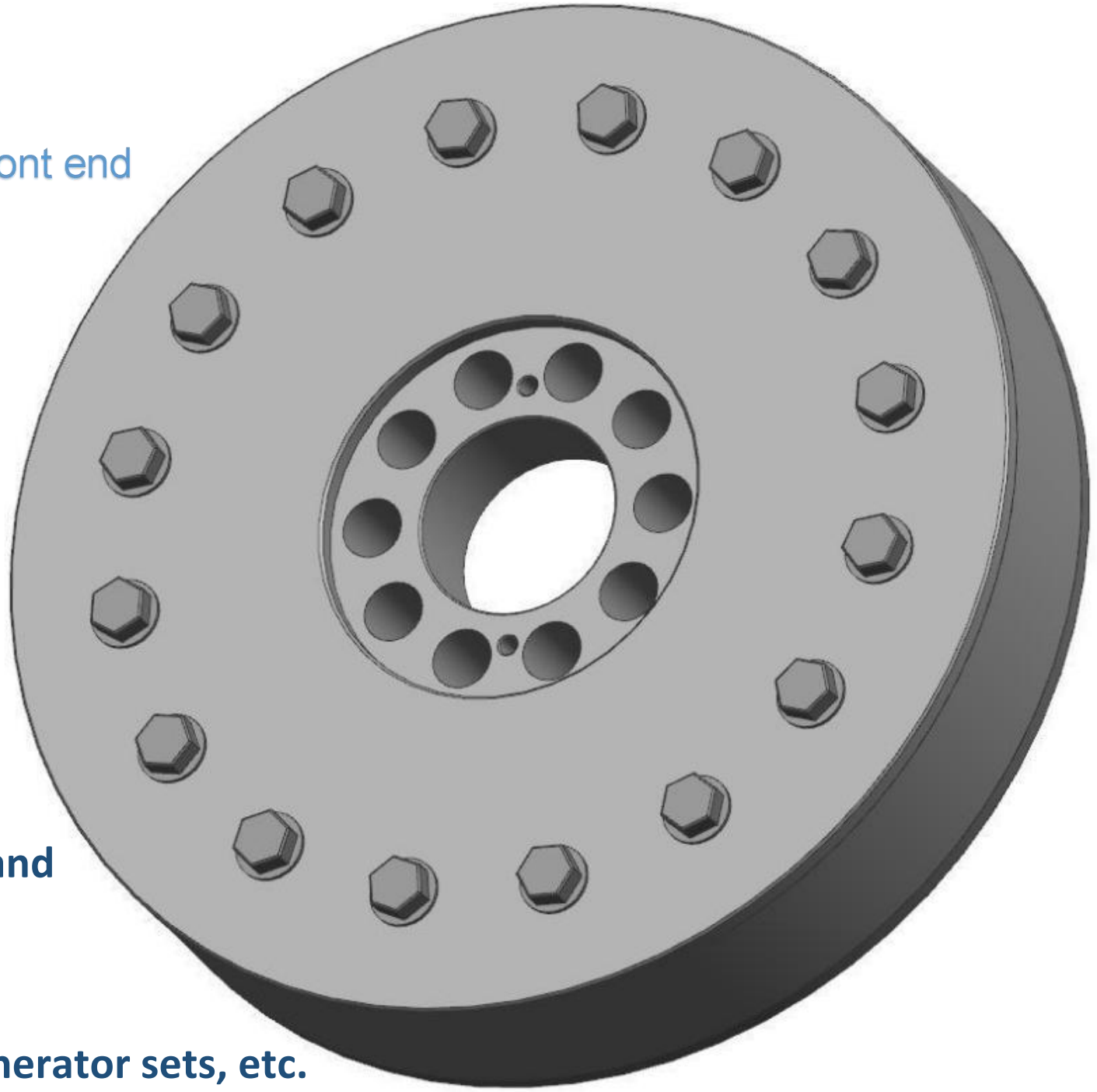
Application:Marine main engines, generator sets, etc.

Torsional vibration damper at front end

Leaf spring damper

Composed of

- Inner wheel
- Outer wheel
- Leaf springs
- Sealing ring
- Cover plates
- Bolts



Matched engine power: 600HP and above

Diameter: 200 ~ 1000mm

Application: Marine engines, generator sets, etc.

Torsional vibration damper at front end

Gear spring damper

Composed of

- External gear
- Hub
- Spring assembly
- Bearings
- Front and rear baffles
- Bolts

Matched engine power: Less than 200 HP

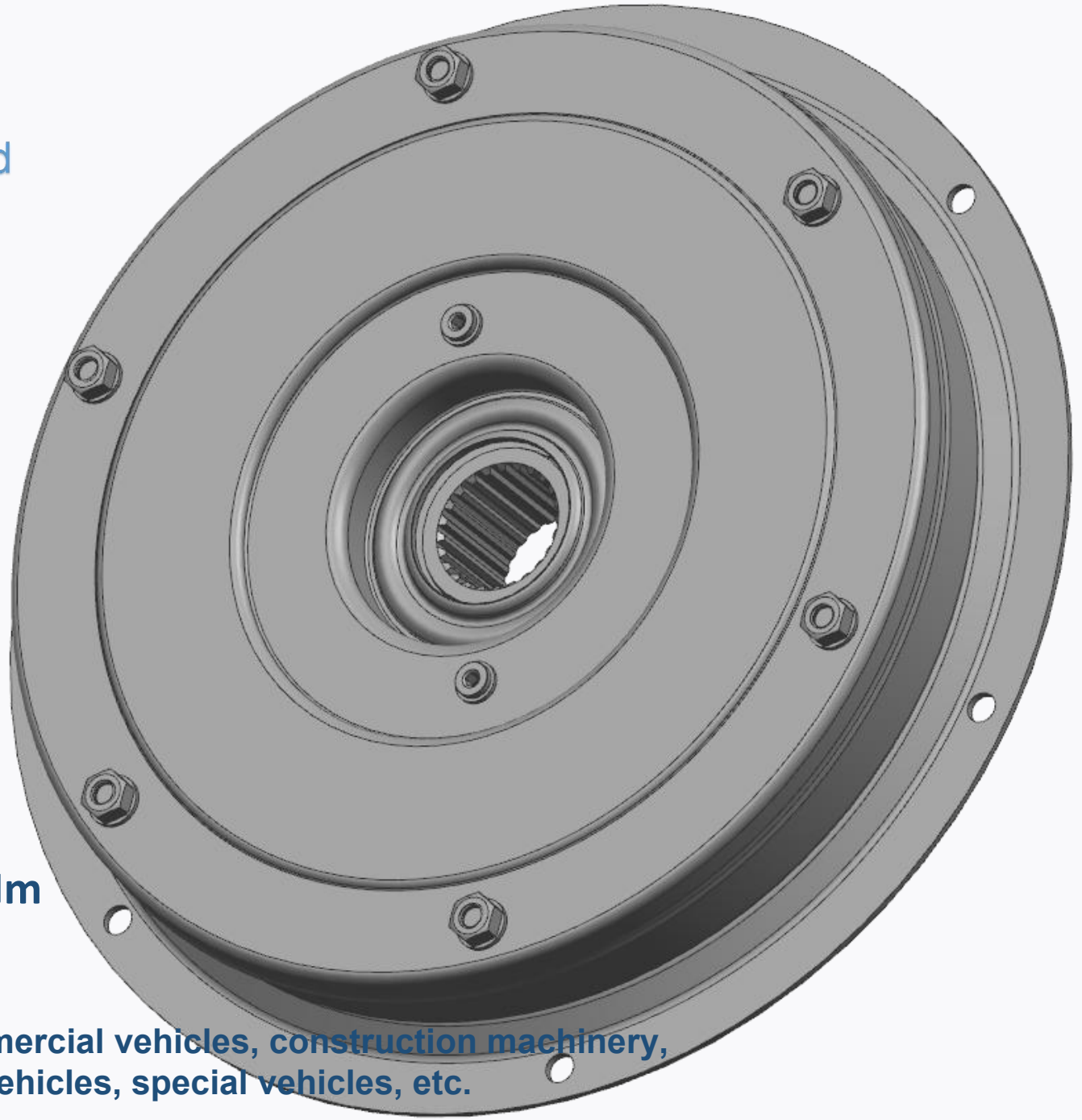
Diameter: 120 ~ 300mm

Application: Load unmanned drones, unmanned platforms, etc.

02

Torsional vibration damper at rear end

Hydraulic torsional damper



Composed of

- Damping vibration reduction
- Flexible vibration damping

Segmental stiffness is designed to accommodate different working conditions.

Matching engine torque: Up to 8000 Nm

Diameter: 150 ~ 500mm

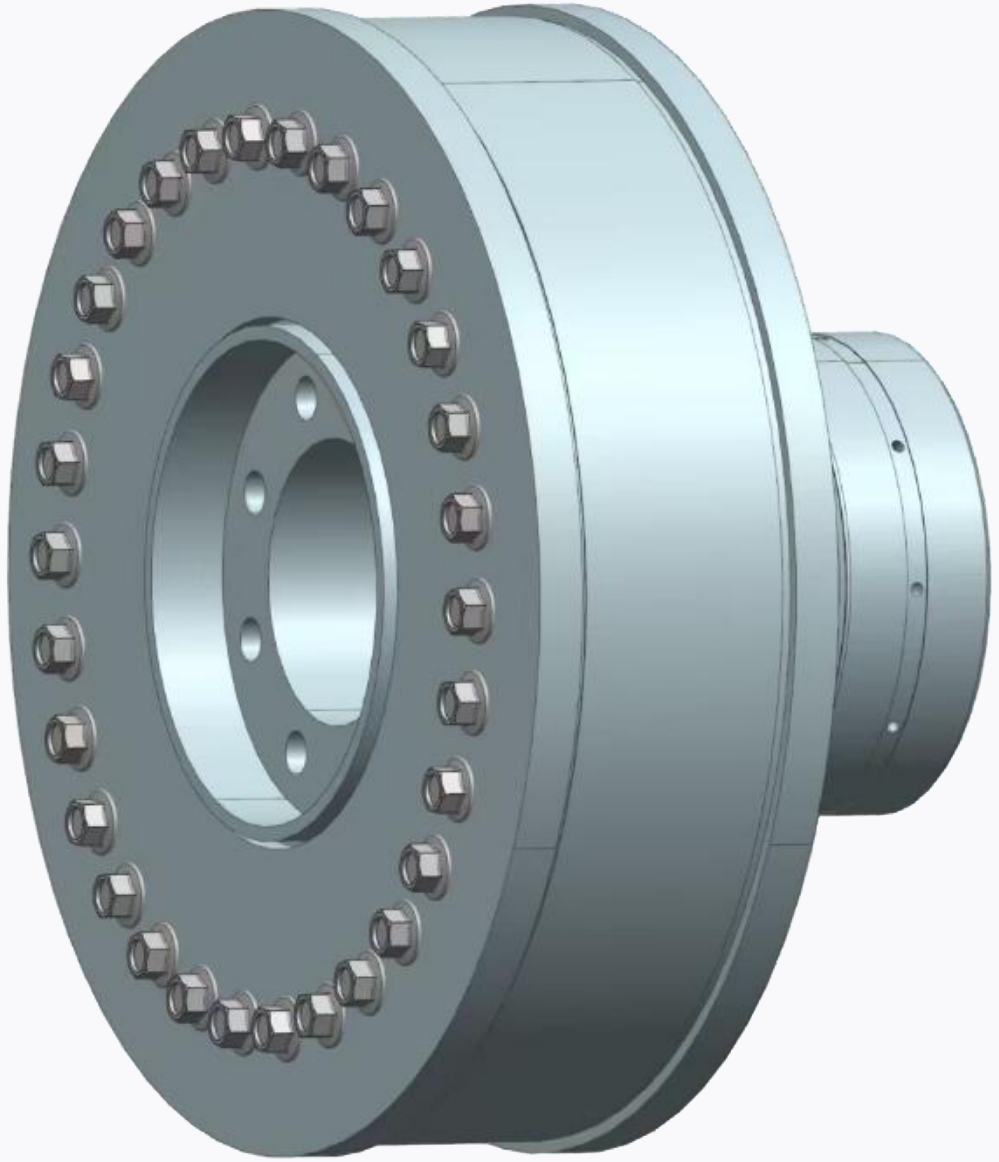
Application: Hybrid passenger vehicles, commercial vehicles, construction machinery, agricultural machinery, buses, oil fracturing vehicles, special vehicles, etc.

Torsional vibration damper at rear end

Leaf spring coupling

Composed of

- Actuating part
- The driven part
- Several groups of leaf springs
- Two-sided sealing ring
- Front and rear cover plates
- Bolts



Matched engine power: 600HP and above

Diameter: 400 ~ 1000mm

Application: Marine engines, generator sets, construction machinery, special vehicles, etc.

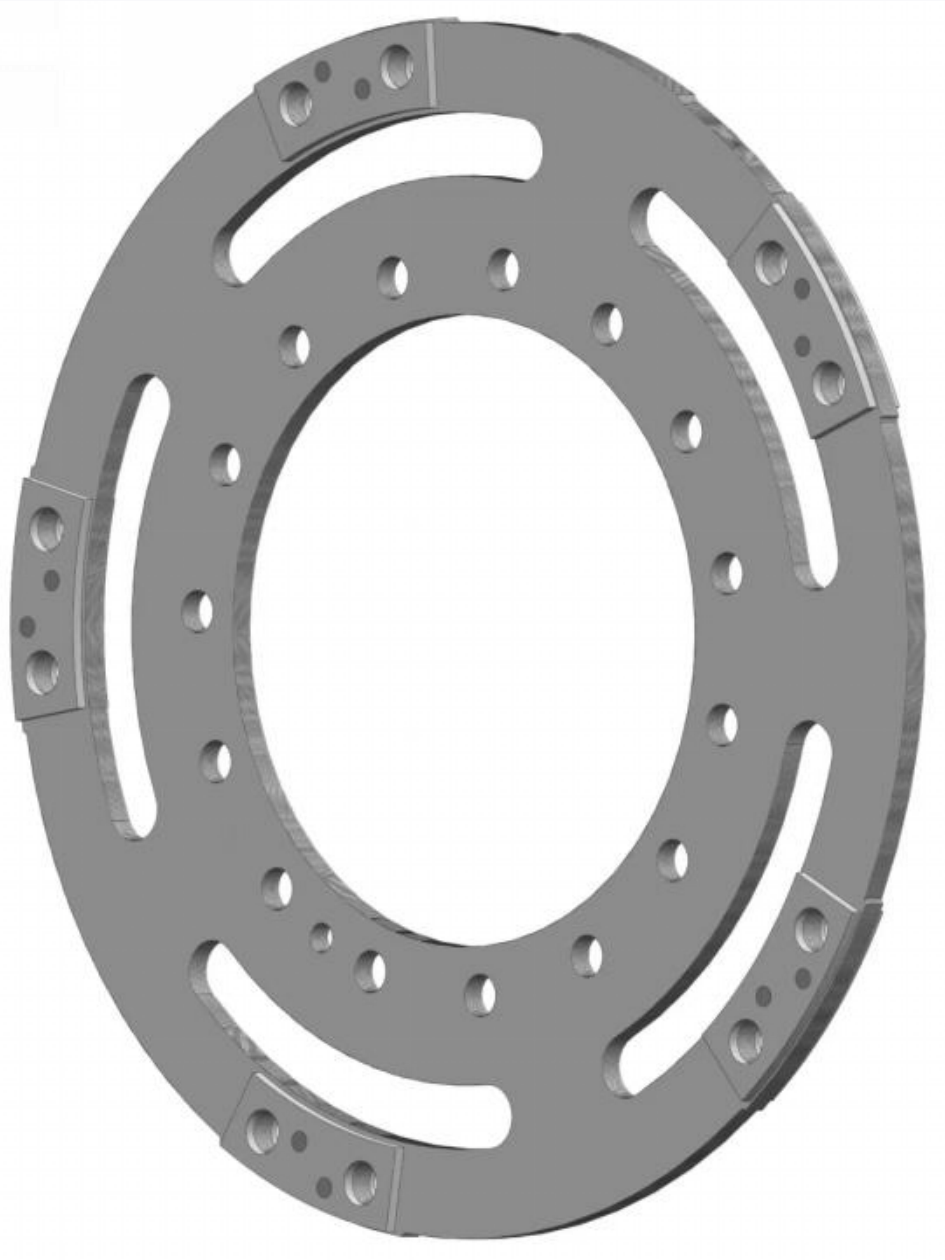
02

Torsional vibration damper at rear end

Diaphragm coupling

Composed of

- A group of metal sheets
- Two sets of splints
- A group of rivets



Matched engine power: 200HP and above

Diameter: 300 ~ 1000mm

Application: Trucks, locomotives, etc.

02

Torsional vibration damper at rear end

Carbon fiber coupling

Composed of

- Carbon fiber
- Flange
- Two sets of screw sleeves

Matched engine power: 500HP and above

Diameter: 300 ~ 1000mm

Application: Truck mining vehicles, locomotives, wind power transmission systems, etc.

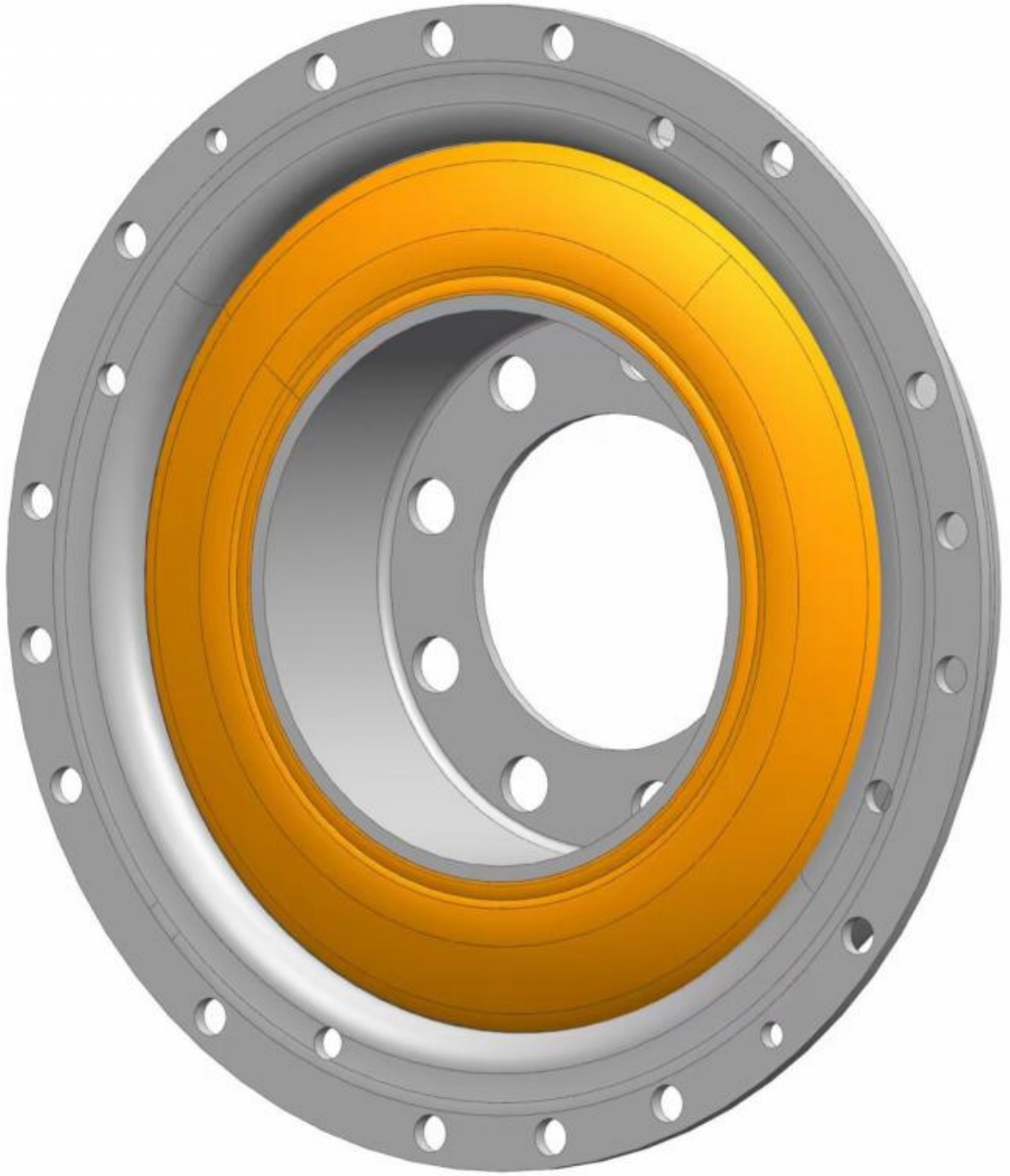
02

Torsional vibration damper at rear end

High elasticity coupling

Composed of

- Actuating part
- The driven part
- Rubber body



Matched engine power: 200HP and above

Diameter: 200 ~ 1000mm

Application: Construction machinery, agricultur generator sets, etc.

COMPANY

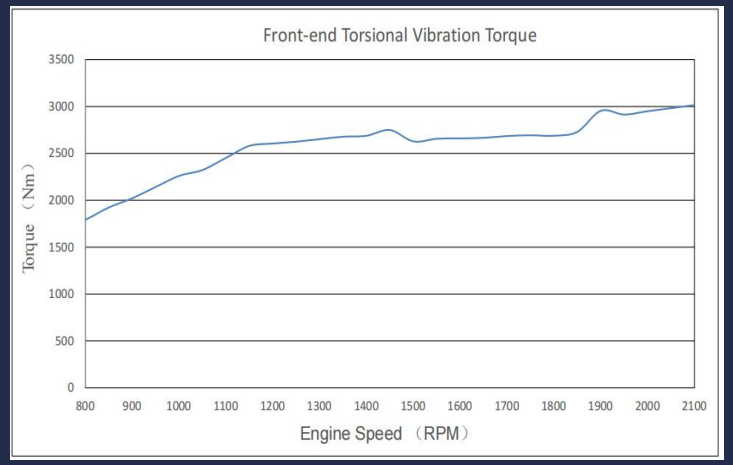
PART THREE

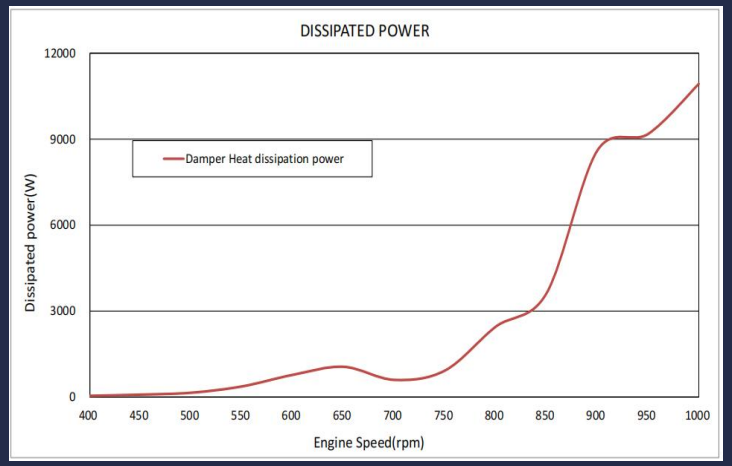
Research and Testing

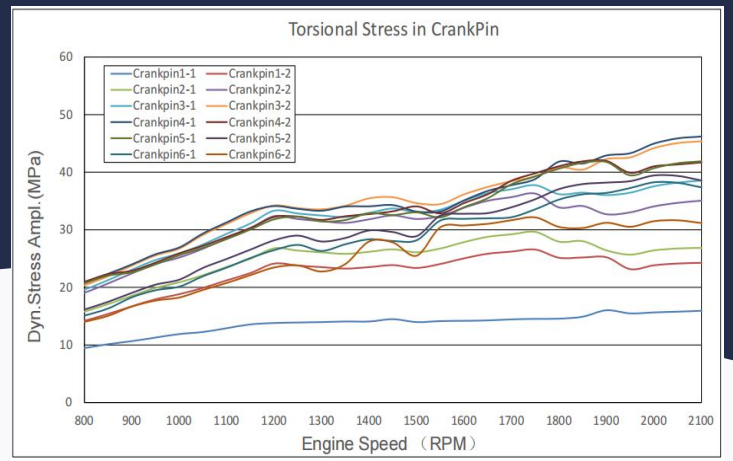
Torsional vibration simulation calculation

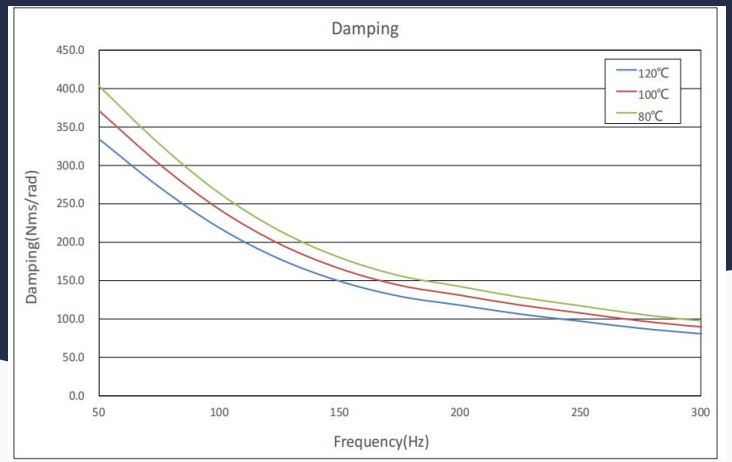
Based on the relevant parameters of the engine, the equivalent system parameters, cylinder pressure, indicated torque, indicated power, the inherent frequency and mode of the crankshaft system, an excitation analysis was conducted and the torsional vibration solution was calculated.

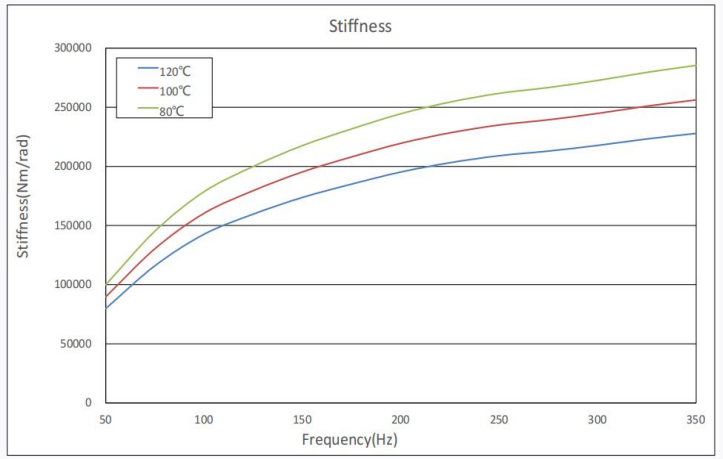
1. **Calculation of damping coefficient**
2. **Calculation of torsional/axial stiffness**
3. **Calculation of front-end and rear-end torsional vibration amplitude**
4. **Calculation of torsional stress in the shaft section**
5. **Calculation of Damping Work for Shock Absorbers/ Couplings**
6. **Calculation of torsional vibration torque of the shaft section**

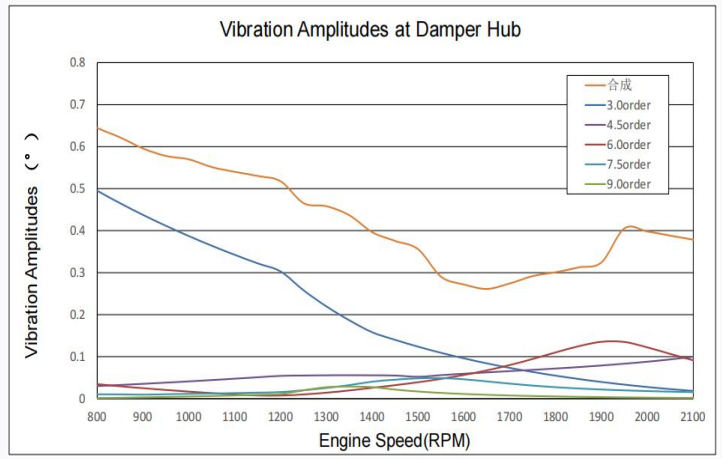












03 Rig performance test

Hexagon Coordinate Measuring Machine (CMM)

Mitutoyo Contour and Surface Measuring Machine

Image measuring instrument

03 Rig performance test

Dynamic balancing machine

Dynamic Analyzer

Purpose: Testing of dynamic and static elastic modulus of isolation components and materials, as well as durability tests

Main parameters: 1. Maximum vibration frequency: 120Hz

2. Maximum dynamic and static load: ±20KN

3. Temperature of the constant temperature box: RT to 200℃

Electronic universal testing machine

Purpose: To test the physical properties such as tensile, compressive, bending, tearing, shearing, and peeling of various materials and products.

Main parameters: 1. Maximum load: 2500N

2. Force measurement accuracy: < 1% of the indicated value

03 Rig performance test

Rubber shock absorber torsional fatigue testing machine

Purpose: For the torsional fatigue performance test of rubber shock absorbers

Main parameters:

1. Maximum vibration frequency: 80Hz
2. Maximum oscillation angle: ±0.5° (80Hz)
   ±15° (5Hz)
3. Temperature of constant temperature box: RT to 200℃

Rubber shock absorber frequency response tester

Purpose: To test the torsional amplitude-frequency characteristics of rubber shock absorbers.

Main parameters:

1. Test frequency range: 100 - 500 Hz
2. Temperature of the constant temperature box: RT - 80℃

Rubber shock absorber static torque tester

Purpose: To measure the torsional static torque and torsional stiffness of rubber shock absorbers.

Main parameters:

1. Maximum torque: 2000 N.m
2. Maximum twist angle: 175

03 Rig performance test

Spring elements, spring shock absorbers Performance test bench

Purpose: Test for static stiffness characteristics of coil spring components, static stiffness, dynamic stiffness and damping performance of coil spring torsional vibration dampers

Spring and coil spring durability test bench

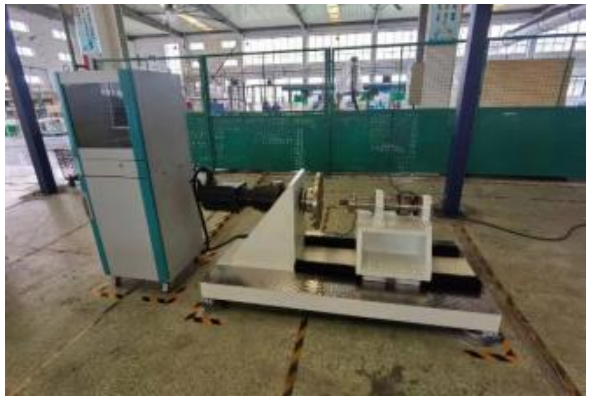
Purpose: Durability test for leaf springs and coil spring components

Static torque testing machine

Purpose: Durability test for leaf springs and coil spring components

Main parameters: Maximum torque: 0 - 10,000 N.M

Swing angle: ±360°



03 Rig performance test

Silicone oil shock absorber damping characteristic testing bench

Purpose: To conduct a comparative test on the torsional vibration damping characteristics of silicone oil shock absorbers.

Main parameters: 1. Rotational speed: 500 - 3000 rpm

2. Torsional vibration angle: 0 - 1.5°

Torsional vibration fatigue testing machine

Purpose: To measure the dynamic performance and fatigue characteristics of torsional vibration dampers and couplings.

Programmable control viscosity meter and high/low temperature constant temperature bath

Purpose: A specialized instrument for precise measurement of silicone oil viscosity

Main parameters: 1. Measurable viscosity range: 800 - 32000 WcP

2. Measurement accuracy: ±1.0% (full range)

3. Temperature stability accuracy: ±0.05℃

03 Rig performance test

Dilution meter

Purpose: To measure the dispersion degree of reinforcing fillers in rubber

Axial vibration laser measuring instrument

Purpose: To measure the axial vibration of the shock absorber shaft

Friction and wear testing machine

Purpose: Used for wear resistance tests of metal and non-metal materials

Main parameters: Maximum test force: 2000N

03 Rig performance test

Rubber and Plastic Low-Temperature Brittleness Tester

Purpose: Used for the low-temperature brittleness test of vulcanized rubber

Main parameters:

1. Temperature control range: -60℃ to 0℃
2. Temperature fluctuation: ±0.5℃
3. Impact speed: 2m/s

Ozone aging test chamber

Purpose: Conduct an ozone resistance cracking test on vulcanized rubber under specified conditions.

Main parameters:

1. Temperature range: RT + 10 to 80℃
2. Ozone concentration: 0 to 500 pphm

Salt Spray Testing Machine

Purpose: To evaluate the corrosion resistance of metal materials and coatings under neutral salt spray conditions

Main parameters:

1. Temperature range: RT to +55℃
2. Temperature uniformity: ≤±2℃
3. Salt spray deposition volume: 1 to 2 ml/80cm2.h
4. Spray mode: Continuous or weekly

Complete machine torsional vibration measurement

Whole machine torsional vibration measurement equipment

Purpose: Measurement of torsional vibration and vibration in diesel engine shafting

Whole vehicle torsional vibration measurement equipment

Purpose: Measurement of vehicle body vibration

COMPANY

PART FOUR

Facilities and Equipment

4

Production equipment——Machining equipment

Metalworking Processing Workshop

Robotic intelligent automatic production equipment

Production equipment——Machining equipment

Metalworking Processing Workshop

Machining Center

04 Production equipment——Cleaning and heat treatment equipment

Through-type cleaning machine

Ultrasonic cleaning machine

Vacuum quenching equipment

04

Production equipmen——assembly line

Silicone oil production line

Production equipmen——assembly line

Hydraulic Production Line

Spring and coil spring production line

COMPANY

PART FIVE

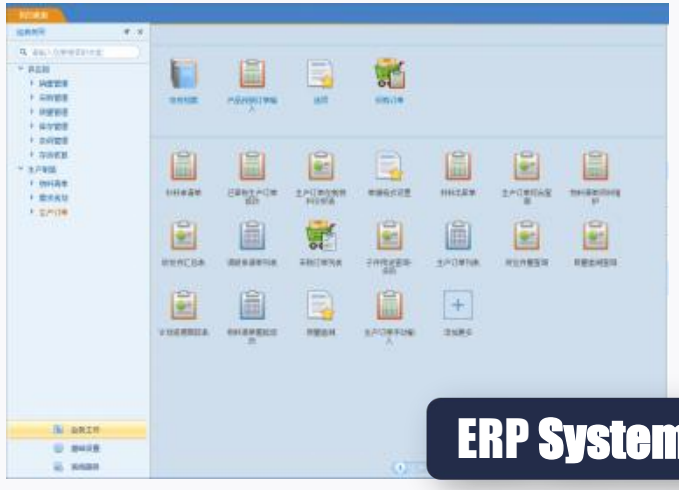
Digital Systems

5

05

数字化系统和应用

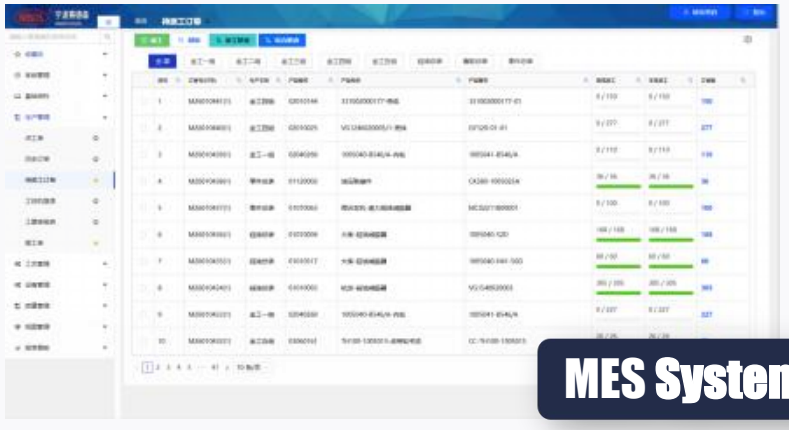
Digital system and Application



ERP System

PLM System

WMS System



MES System

QMS System

COMPANY INTRODUCTION

COMPANY

PART SIX

Quality System Certification

6

TÜV NORD

CERTIFICATE

Management system as per
IATF 16949:2016
(1st edition, 2016-10-01)

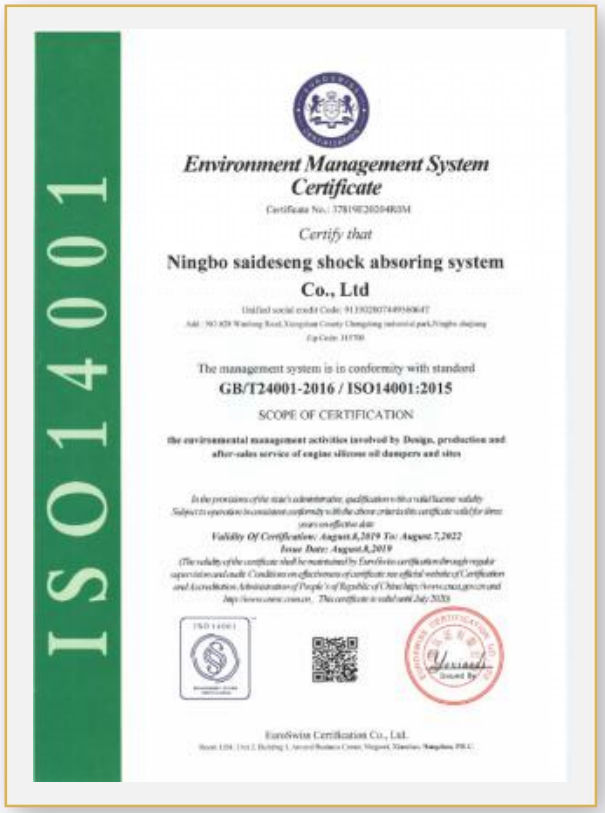
Ningbo Sedsun Vibration Damper Co., Ltd.
No. 628 Wanlong Road, East Industrial Zone, Xiangshan County
315700, Ningbo, Zhejiang
P.R. China

Design and manufacturing of torsional vibration absorbers for engines crankshaft

with the Extended Manufacturing Site:

Ningbo Sedsun Vibration Damper Co., Ltd.
No. 8 Lingchi Road, East Industrial Zone, Xiangshan County, 315700, Ningbo, Zhejiang, P.R. China

IATF 16949



ISO14001

Environment Management System Certificate

Certificate No.: 17819E2020480M

Certify that

Ningbo saideseng shock absoring system Co., Ltd

Unified social credit Code: 91330207749536064T

The management system is in conformity with standard
GB/T24001-2016 / ISO14001:2015

SCOPE OF CERTIFICATION

the environmental management activities involved by Design, production and after-sales service of engine silicone oil dampers and sites

Validity Of Certification: August 8,2019 To: August 7,2022
Issue Date: August 8,2019

EuroSwiss Certification Co., Ltd.

中国船级社质量认证公司
CHINA CLASSIFICATION SOCIETY CERTIFICATION COMPANY

质量管理体系认证证书
QUALITY MANAGEMENT SYSTEM CERTIFICATE

No.00519Q32008R0M

宁波赛德森减振系统有限公司

This is to certify that the Quality Management System (QMS) of

NINGBO SADSON VIBRATION DAMPER CO., LTD.

(Registered Add: No.628, WANLONG ROAD, CHENGDONG INDUSTRIAL PARK, XIANGSHAN COUNTY, NINGBO CITY, ZHEJIANG PROVINCE, 315700, P.R.CHINA; Uniform Code of Social Credit 91330207749536064T)
(Production Add: No.8, LINGCHI ROAD, CHENGDONG INDUSTRIAL PARK, XIANGSHAN COUNTY, NINGBO CITY, ZHEJIANG PROVINCE, 315700, P.R.CHINA)

建立的质量管理体系符合标准：GB/T19001-2016/ISO9001:2015。
has been found to conforms to standard: GB/T19001-2016/ISO9001:2015.

本证书对下述范围的质量管理体系有效：*灰铸铁、球墨铸铁、合金铸铁件的生产*。
This certificate is valid to the following scope for QMS: *PRODUCTION OF GRAY IRON CASTINGS, DUCTILE IRON CASTINGS AND ALLOY CAST IRON*.

本证书有效期至：2022 年 8 月 29 日。
This certificate is valid until: 29 August 2022.

Issued on: 30 August 2019

General Manager Huang Shiyuan

IAF CNAS QMS

IATF16949:2016

ISO14001:2015

ISO9001:2015

Concept

Innovation, Environmental Protection, Durability, Responsibility

We are an outstanding supplier of torsional vibration damping solutions.

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