

**ETP EUROPE S.R.L**



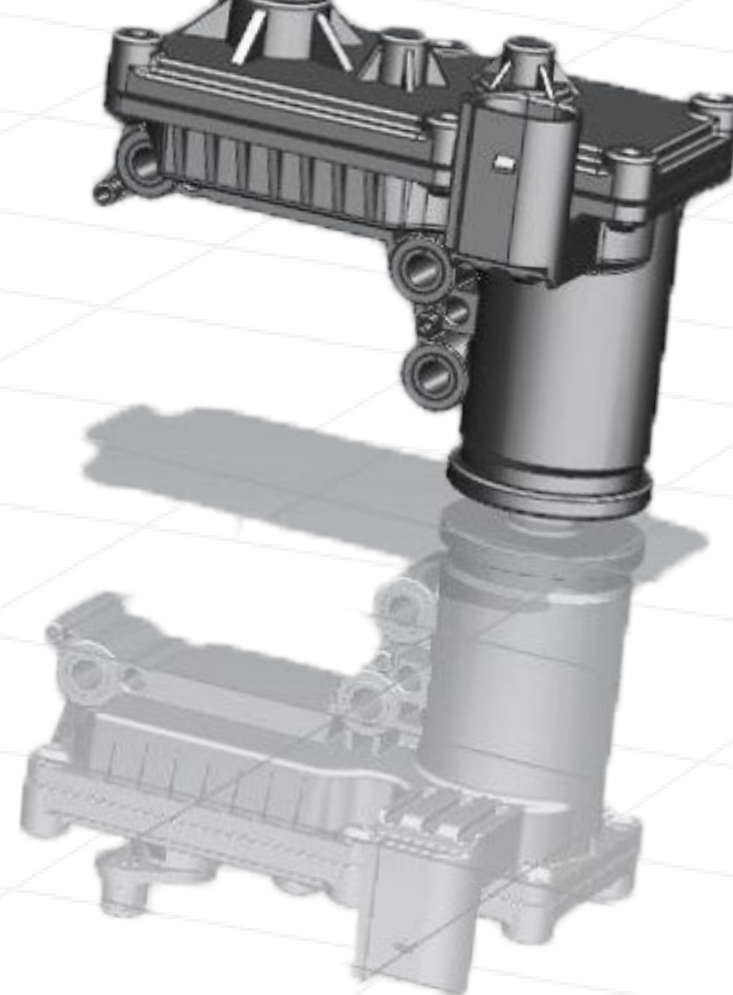
# CONTENTS

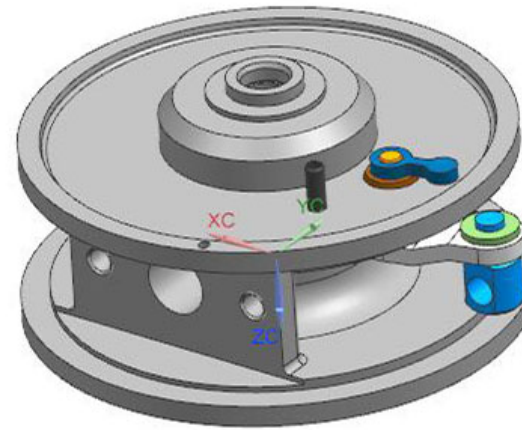
 About Us

 R & D

 Production

 Product





# 01

## PART ONE

- 
- Company Profile
  - Corporate Structure
  - Development History
  - Cooperation And Performance



ETP Europe S.R.L. is mainly engaged in the design, development and manufacture of electronic actuators, EGR valves, step step motor, sensors, electronic throttle body and electronic turbocharger, etc. for the fuel vehicles and new energy vehicle. With fixed assets of more than 6 million usd. Includes Honeywell BorgWarner, HELLA, SIEMENS, MITSUBISHI, SONCEBOZ, DENSO, MAHLE and other electronic control system products. we equipped for Honda, BAW and CHANGFENG and other domestic hosts. ( Pls write ETE profile )



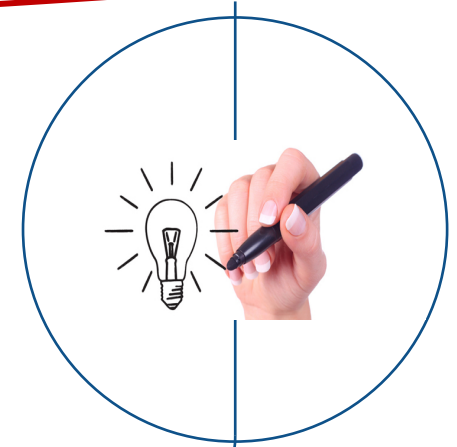


# About Us

## Development History

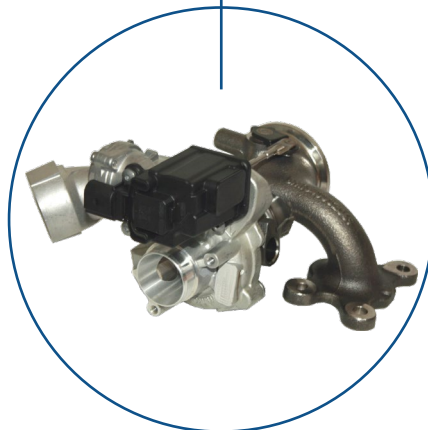
**ETE EUROPE FOUNDED  
APRIL 2017**

**2017Year**



**START UP OPERATIONS  
JULY 2017**

**2017Year End**



**START UP SELLS OF COMPLETE TURBOCHARGERS  
NOVEMBER 2017**



# About Us

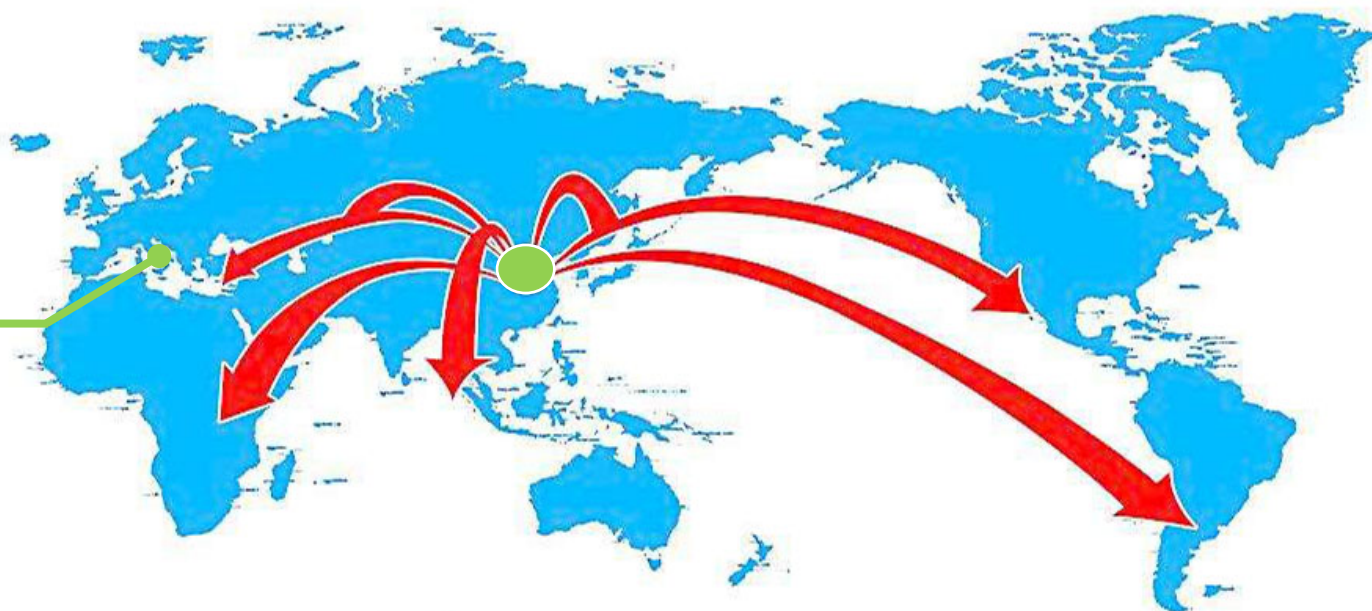
Cooperation And  
Performance

## Foreign customer group

Products are mainly exported to Europe, such as France, Spain, Germany, Poland, Greece, Turkey, Ukraine, North Africa and the United States and other more than 30 countries.



European  
Storeroom



## Applicable-Small Part



VOLVO



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# 02

## PART TWO

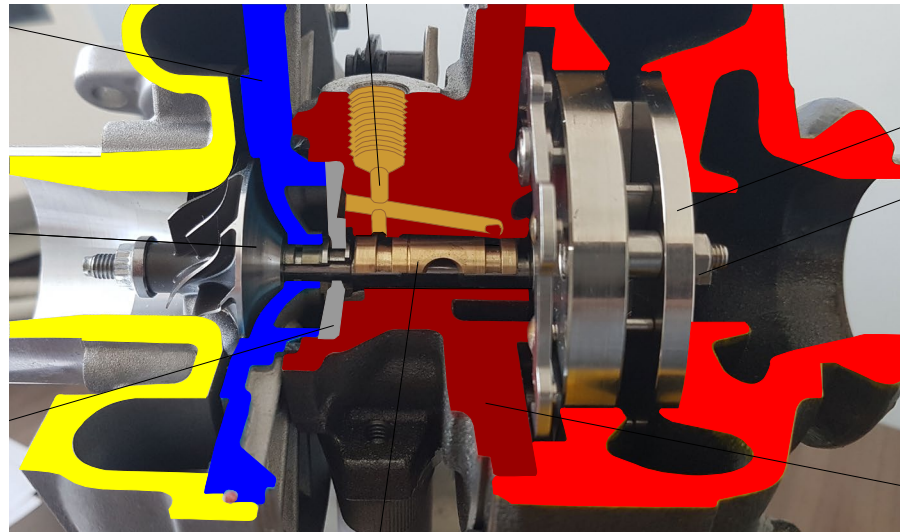
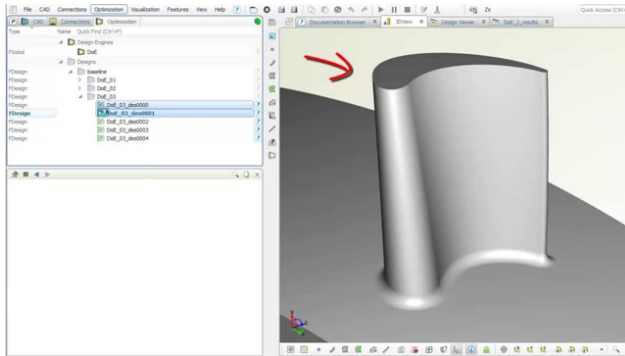
- R & D Team
- Laboratory Equipment



R & D

R & D Team

- 12 Members in R & D teams, including 2 senior engineers in automotive mechanical and Electronical specialty



- Long-term cooperating with turbocharger department of Beijing Institute of Technology.



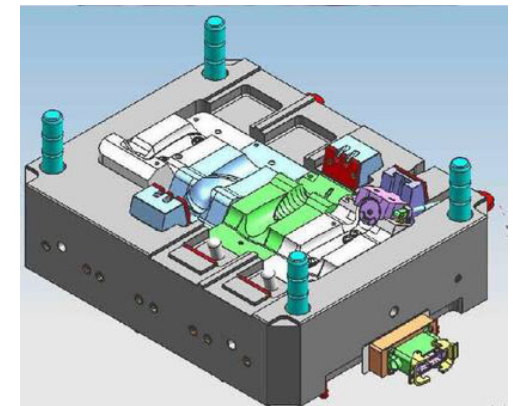
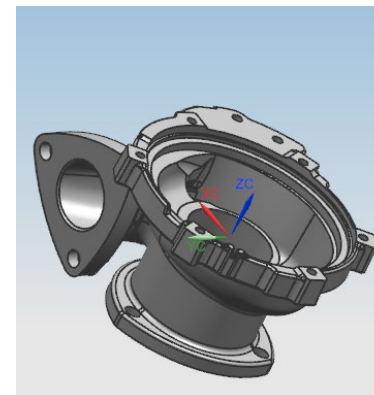
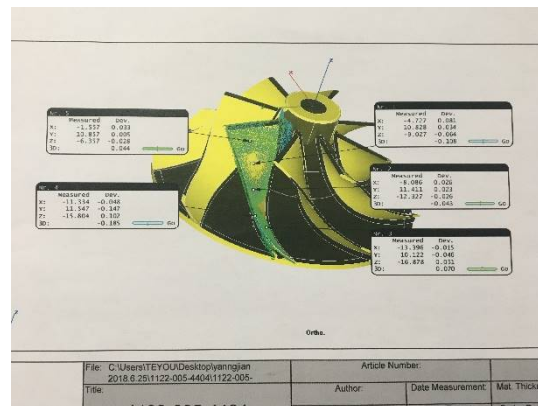
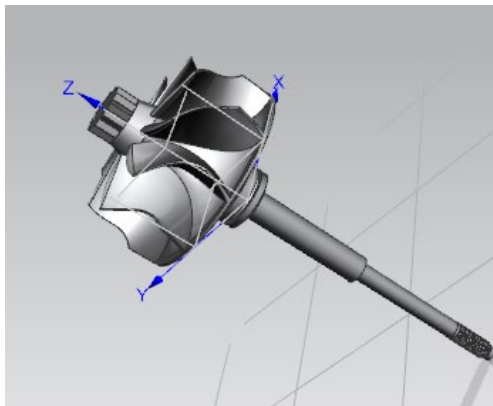
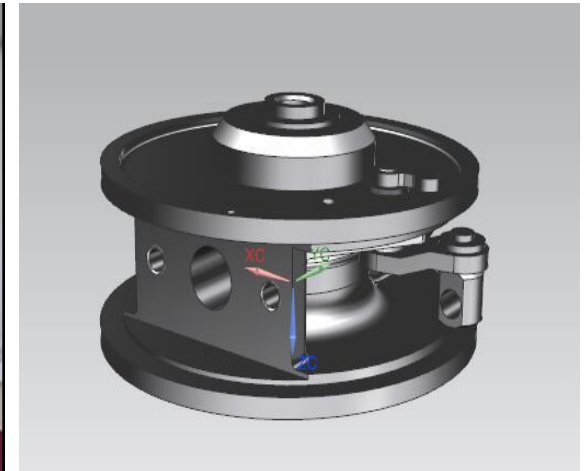


R & D

R & D Team

What we can do:

- Independently developed
- Design of Injection mold



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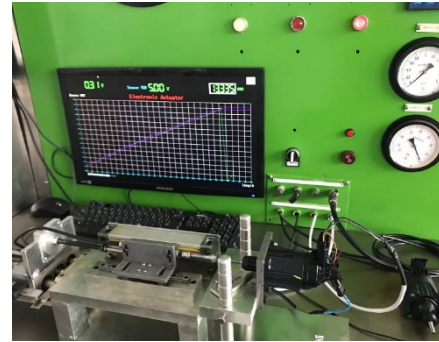
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R & D

## Laboratory Equipment

- Performance curve test
- Durability test
- Salt spray chamber
- Response time test-bed
- Vibration test stand
- Seal performance test table



Performance curve test



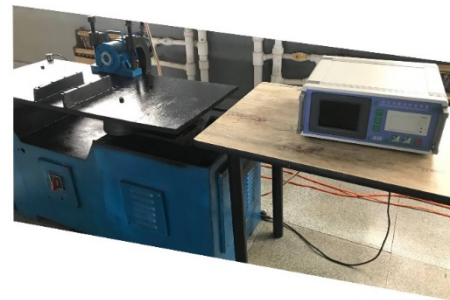
Durability test



Salt spray chamber



Response time test-bed



Vibration test stand



Seal performance test table



R & D

## Laboratory Equipment

- Motor torque test table
- Push and pull torque test rig
- Thermal shock chamber
- Flow bench of turbocharger
- Flow test bed for electronically controlled turbocharger
- Engine test bench



Motor torque test table



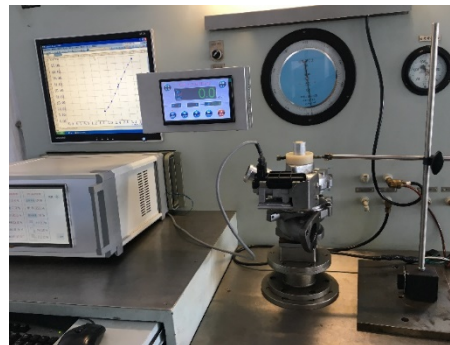
Push and pull torque test rig



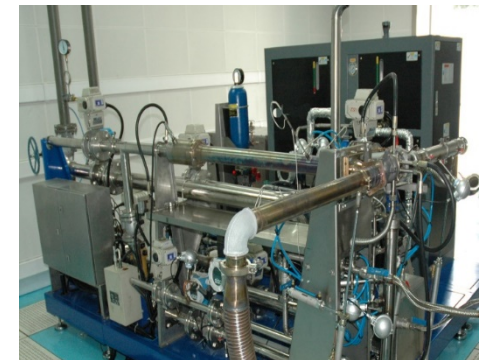
Thermal shock chamber



Flow test bed for electronically controlled turbocharger

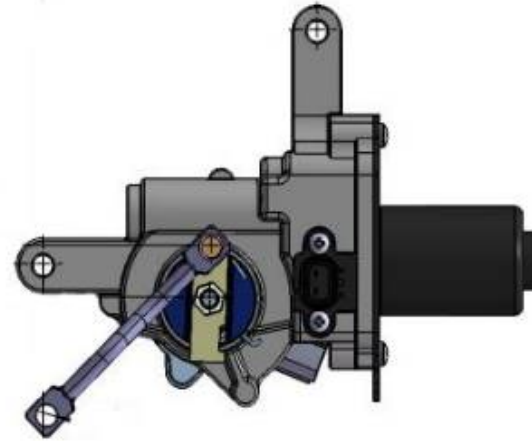


Flow test bed for electronically controlled turbocharger



Engine test bench





## PART THREE

- Production Technology
- Machining equipment
- Production Line





- Machining
- Injection molding
- Vulcanization process
- Assembly of electromechanical components
- Programing flashing
- Heating and filling
- Laser welding
- Winging & soldering
- Argon arc welding
- Resistance welding
- Mechanical connection: riveting, press fit
- Laser Marking





## *Production*

## Machining equipment

- Winding machine
- Laser welding machine
- Dynamic balancing machine for CHRA. (VSR by UK TURBO TECHNICS)
- Injection molding machine
- CNC engraving and milling machine
- Machining center



Winding



Dynamic balancing machine for  
CHRA



CNC engraving and milling  
machine



Laser welding machine



Injection molding  
machine



Machining center



*Production*

Production  
Line

0  
1

## Electronic actuator production line



## Category of the product



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*Production*

Production  
Line

0  
2

## EGR Valve production line



## Category of the product



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*Production*

Production  
Line

0  
3

## Machining workshop



## Category of the product



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*Production*

Production  
Line

0  
4

## Injection workshop



## Category of the product



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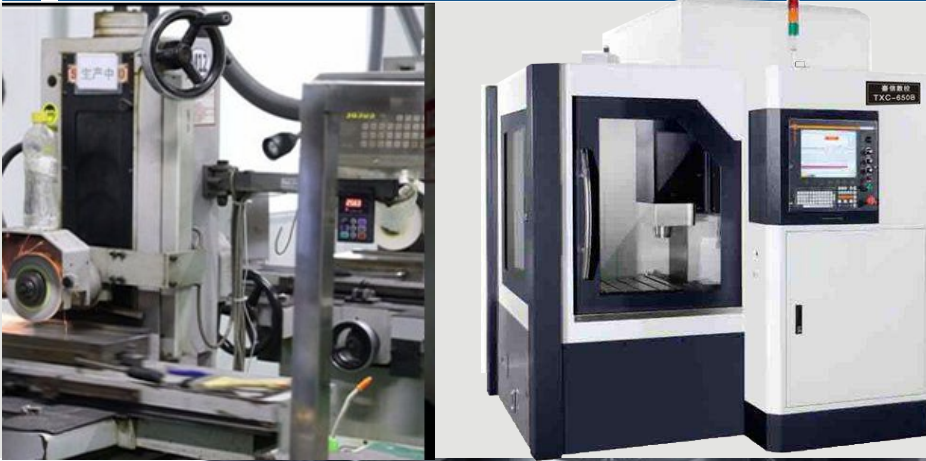


*Production*

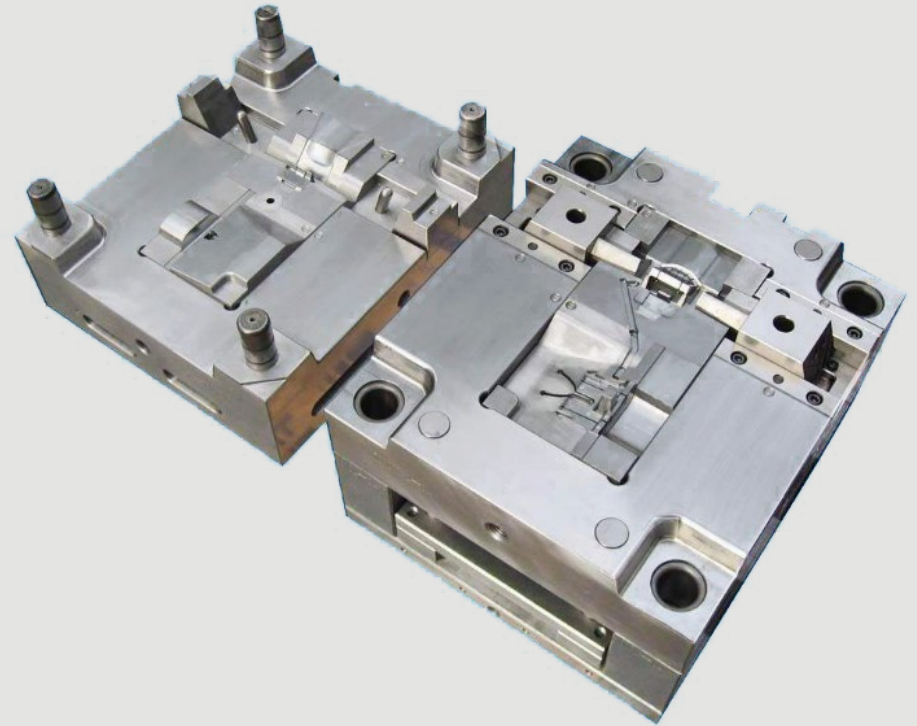
Production  
Line

0  
5

## Die making shop



## Category of the product



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*Production*

Production  
Line

0  
6

## Electronically Controlled Turbocharger Assemble Line



## Category of the product



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*Production*

Production  
Line

0  
7

## Assembly line of CHRA.



## Category of the product



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# 04

## PART FOUR

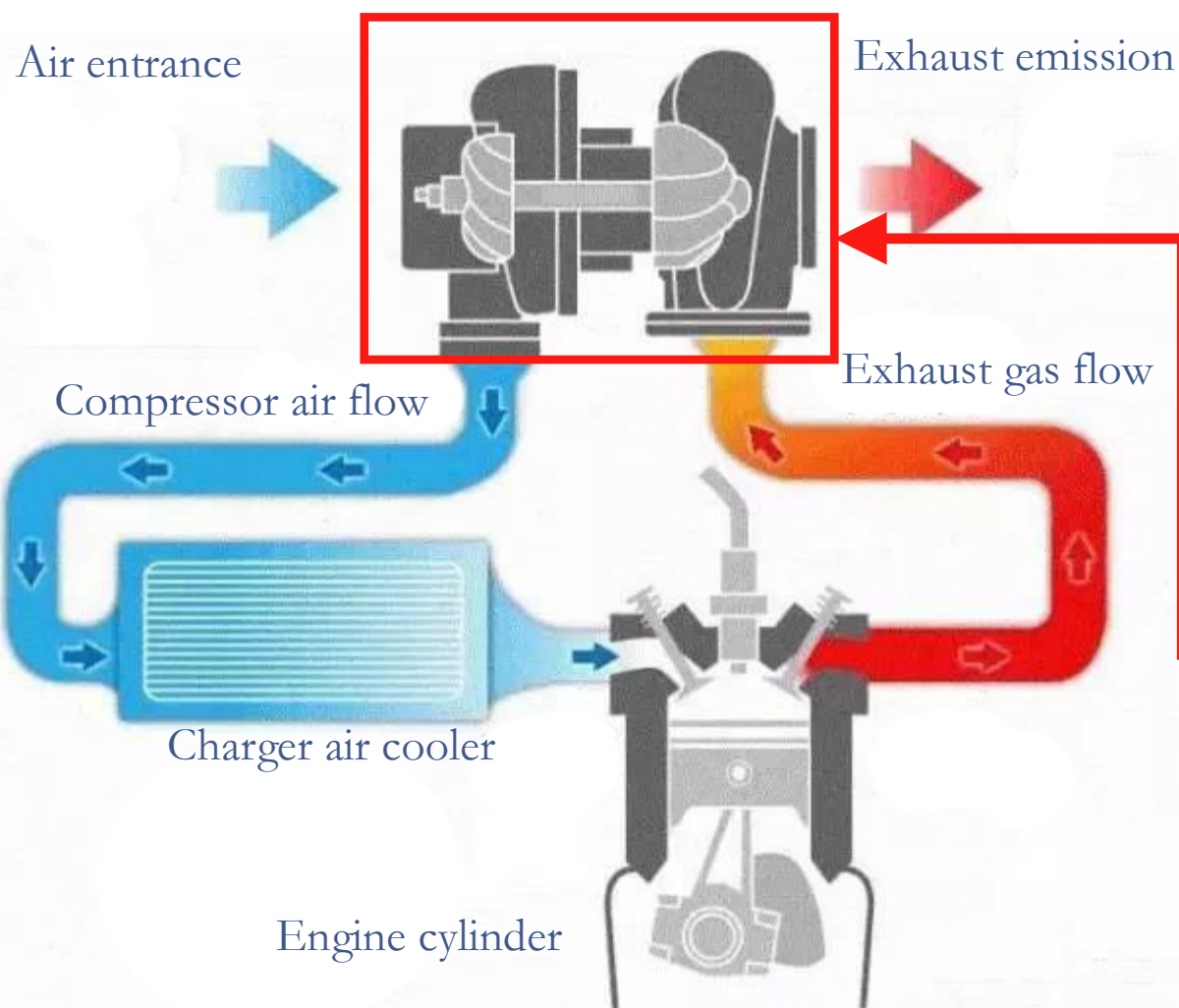
- Electronic Actuator
- EGR Valve
- Turbocharger



*Product*

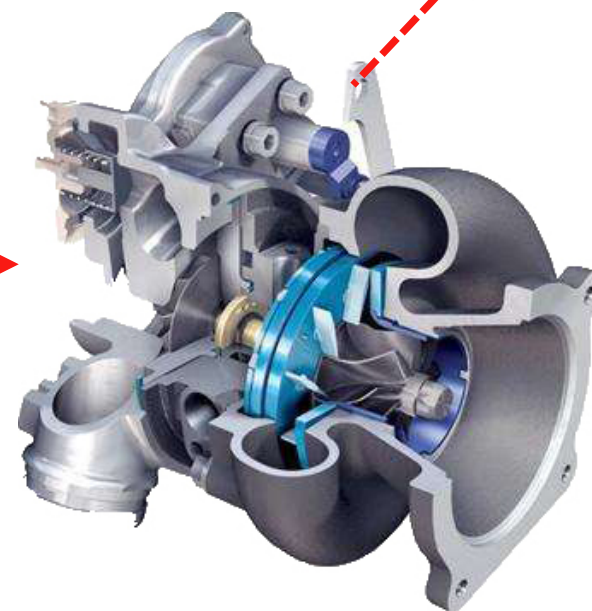
Electronic Actuator

## System Function Description



Electronic Actuator

It controls the exhaust gas amount of action that enters the turbocharger



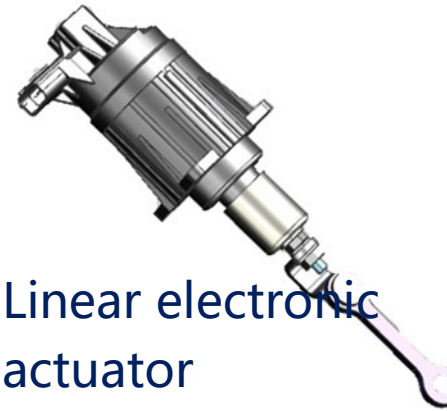


*Product*

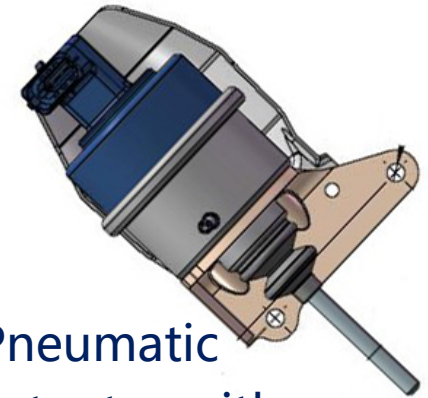
Electronic Actuator

## Category of Electronic Actuator

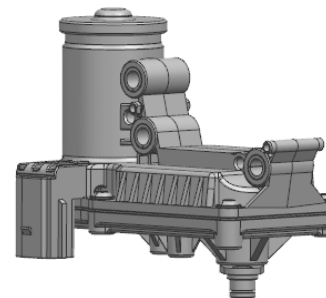
- Rotary electronic actuator
- Linear electronic actuator
- Pneumatic actuator with position sensor



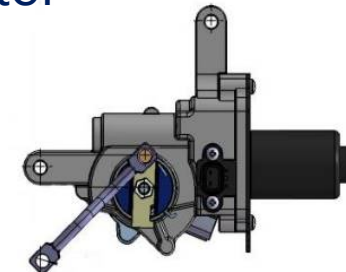
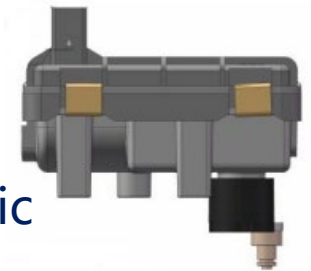
Linear electronic actuator



Pneumatic actuator with position sensor



Rotary electronic actuator



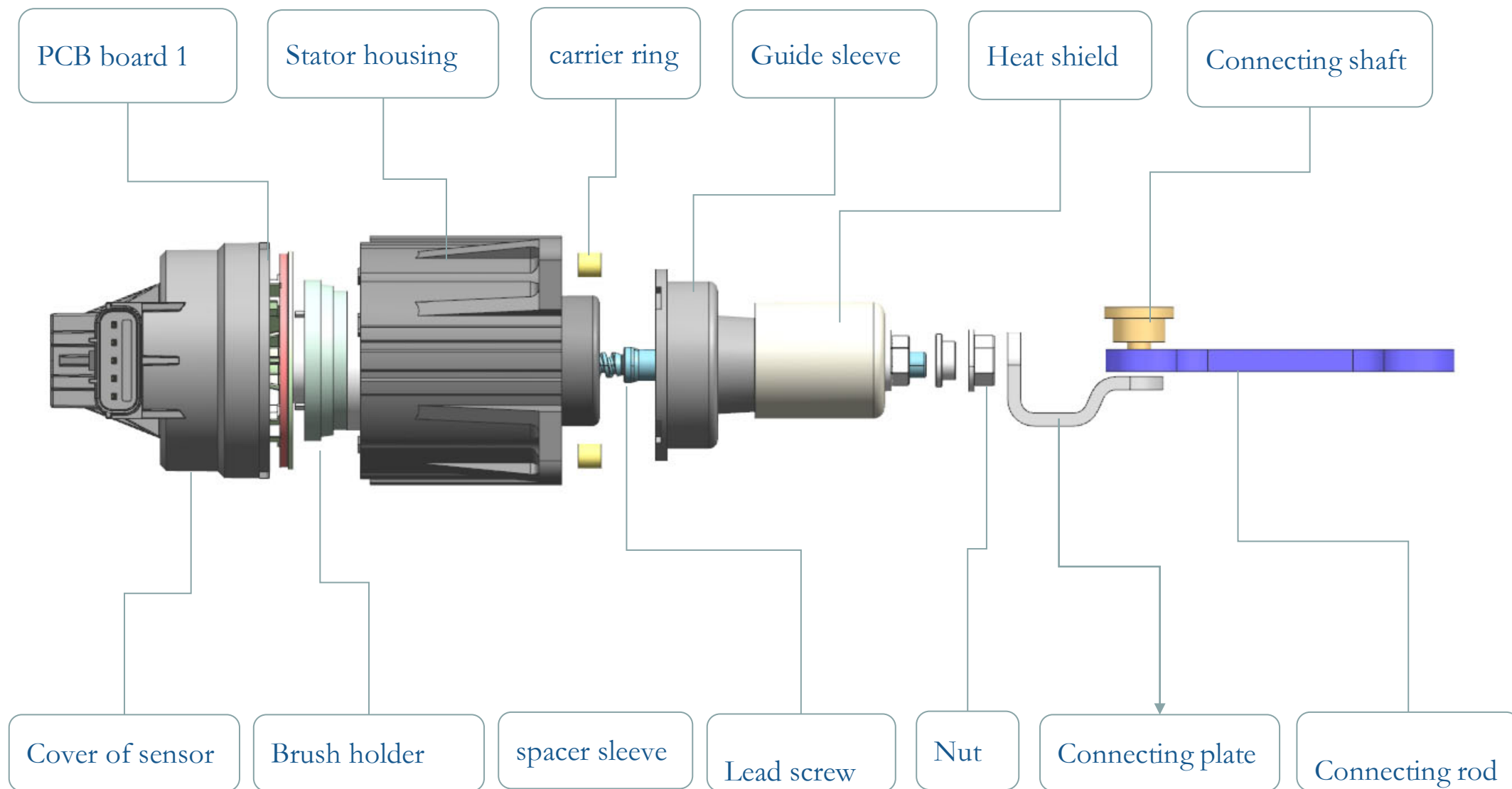




*Product*

Electronic Actuator

## Structure chart of Linear electronic actuator





***Description of Linear electronic actuator***

- Waste Gate Valve for turbocharger gasoline engines
  - Output force and linear displacement
  - The output displacement of the actuator is proportional to the signal and automatically completes the adjustment task
  - Driving way: "H" type PWM
  - Communication : Analog model
- Driving way: "H" type PWM
  - Communication : Analog model



*Product*

Electronic Actuator

*Parameter*

➤ Appearance



➤ Actuating time

$\leq 150\text{ms}$

➤ Operating voltage:

9V—16V

➤ Shock

$< 196\text{m/S}^2$

➤ Operating temperature range:

-40°C— +150°C

➤ Armature current

4.5A

➤ Rated current

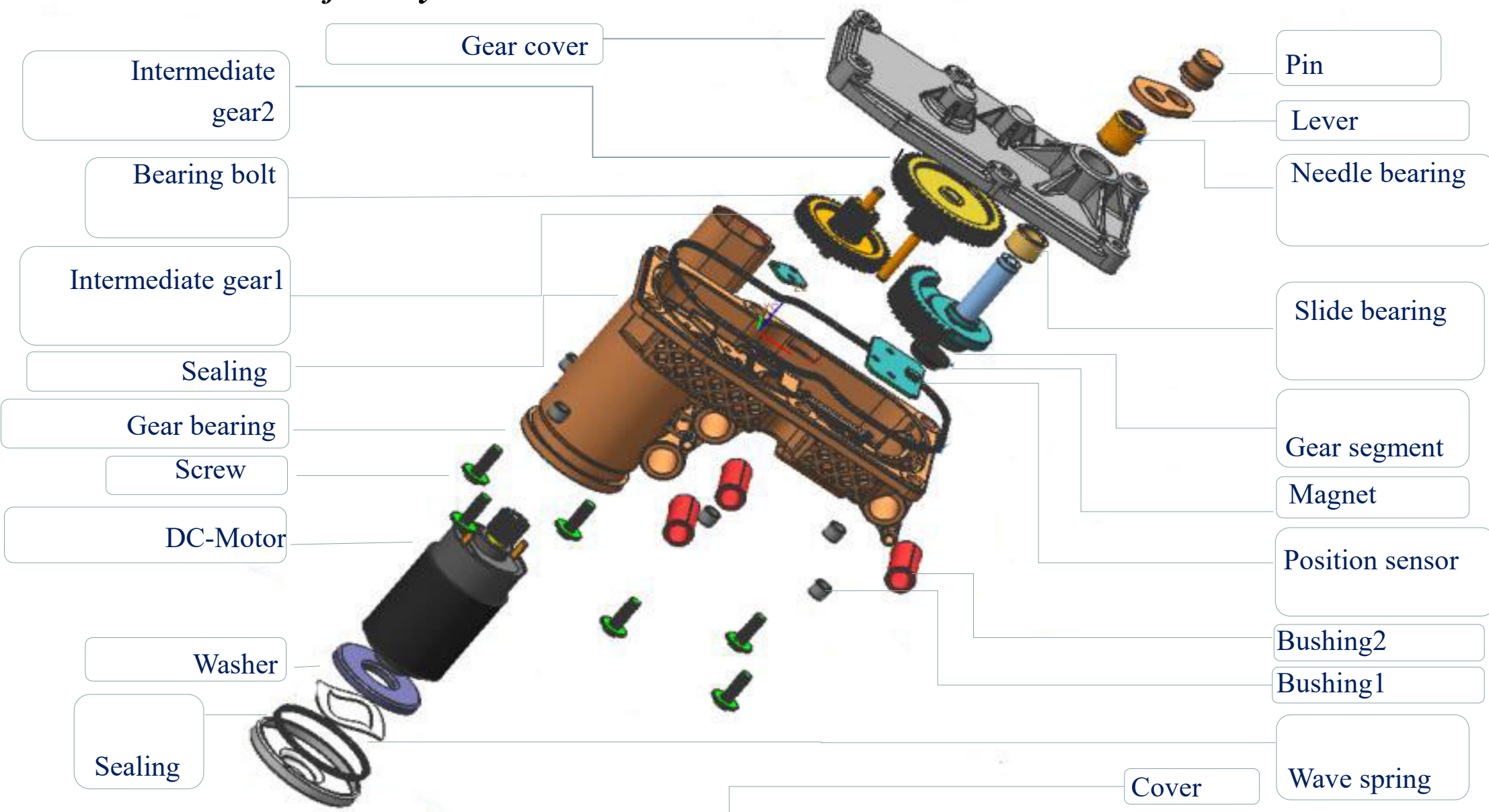
0.33A



Product

Electronic Actuator

## Structure chart of rotary electronic actuator







## *Description of rotary electronic actuator*

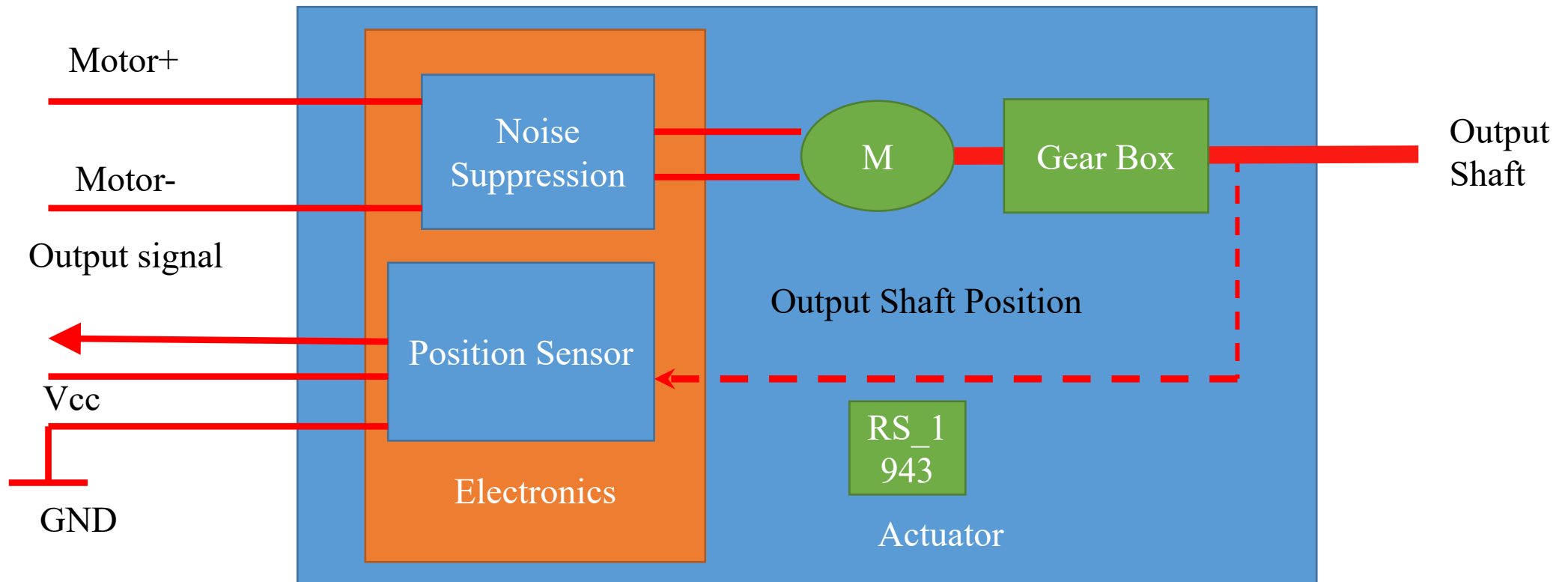
- Waste Gate Valve for turbocharger gasoline engines
- Spur gear system, adapted to the exhaust gas pressure characteristics
- Position of output shaft is sensed by the sensor and provide as a output curve
- Simple electronics
- Standardized connector: RD,MLK, MCON
- DC-motor with integrated chokes
- Operating voltage: 9V—16V
- Operating temperature range: -40°C— +160°C



Product

Electronic Actuator

## *Working Principle of rotary electronic actuator*



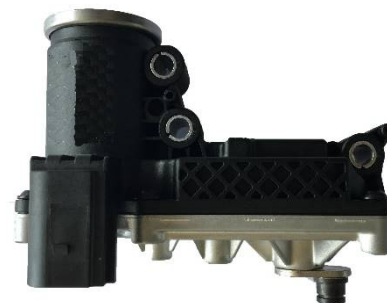


*Product*

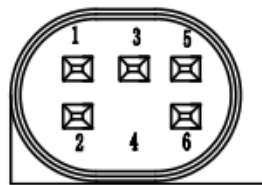
Electronic Actuator

## Parameter

➤ Appearance



➤ Electronical Connector



➤ Torque

value

Working voltage

Temperature

Max permanent operating torque  
70-90N·CM

13.5V

160°C

➤ Angle range

$120^{\circ} \pm 10^{\circ}$

➤ Weight

450g

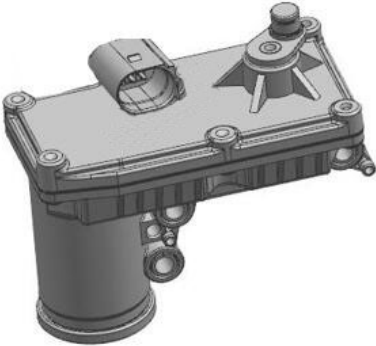
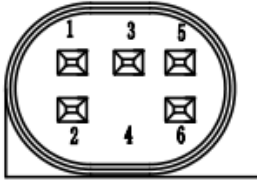
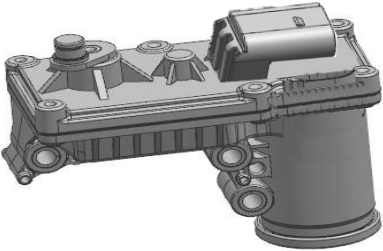

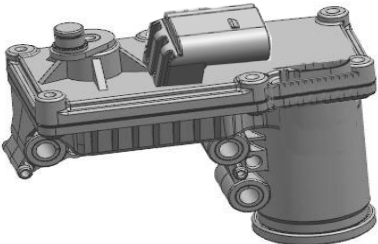
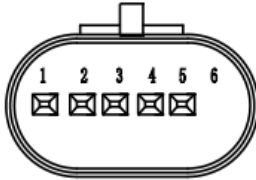




*Product*

Electronic Actuator

## Design Variants — Electronical Connector

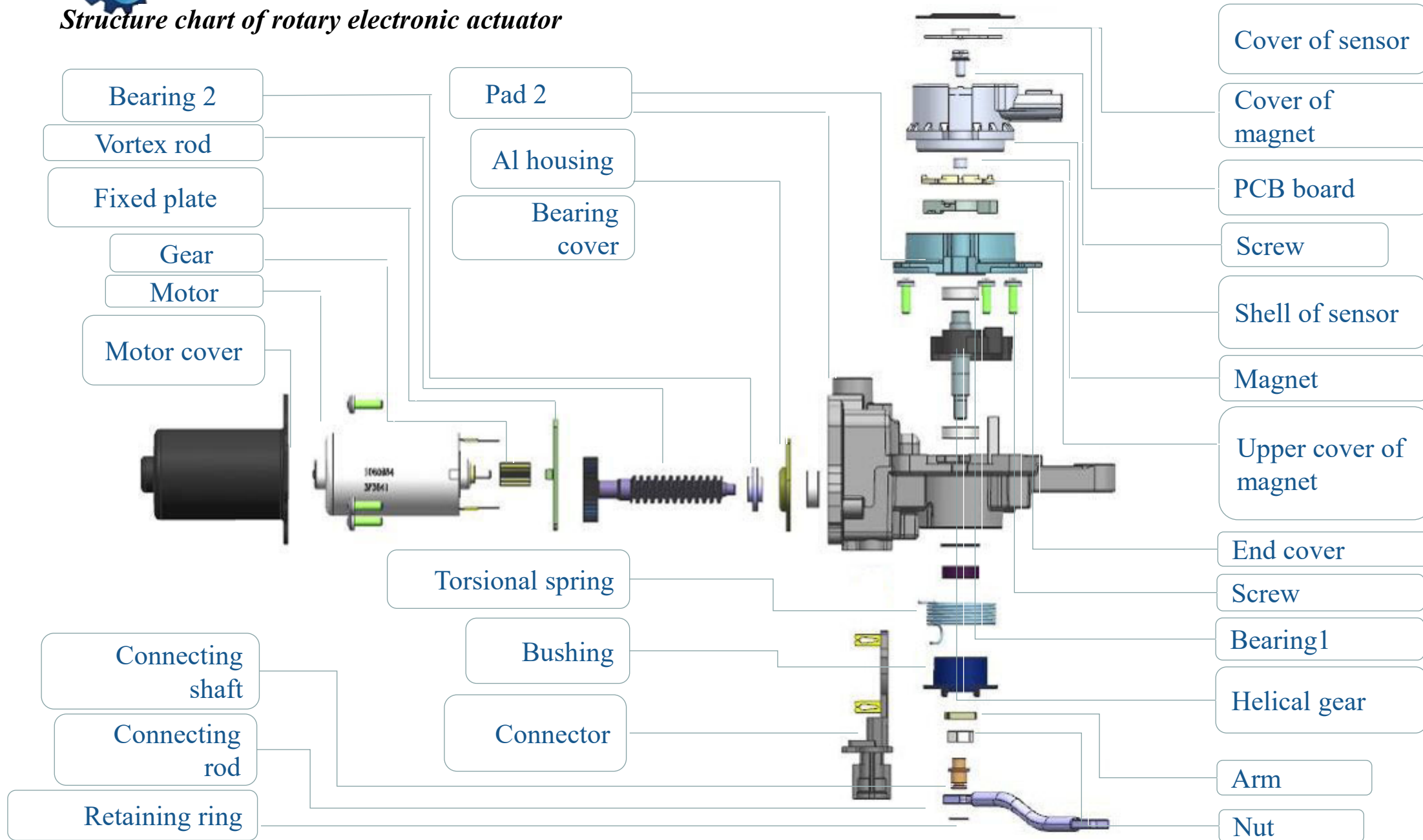
Appearance	Connector	Description
		<ul style="list-style-type: none"><li>➤ 6-pin connector</li><li>➤ Production intention depends of customer request</li></ul>
		<ul style="list-style-type: none"><li>➤ MLK 5-pin connector</li><li>➤ Production intention depends of customer request</li></ul>
		<ul style="list-style-type: none"><li>➤ MCON 6-pin connector</li><li>➤ Production intention depends of customer request</li></ul>



# Product

# Electronic Actuator

*Structure chart of rotary electronic actuator*





*Product*

Electronic Actuator

## Parameter

➤ Appearance



➤ Voltage rang

10.5V—16V

➤ Nominal speed

00.45° /ms

➤ Temperature

-40°C— +140°C

➤ Sensor resolution

0.039°

➤ Max angle  
at output

105°

➤ Min torque

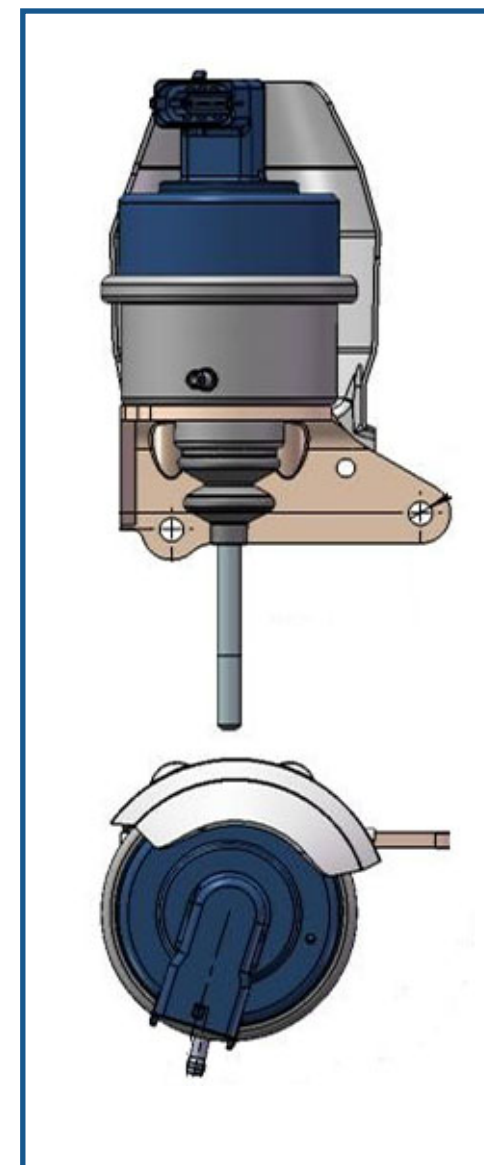
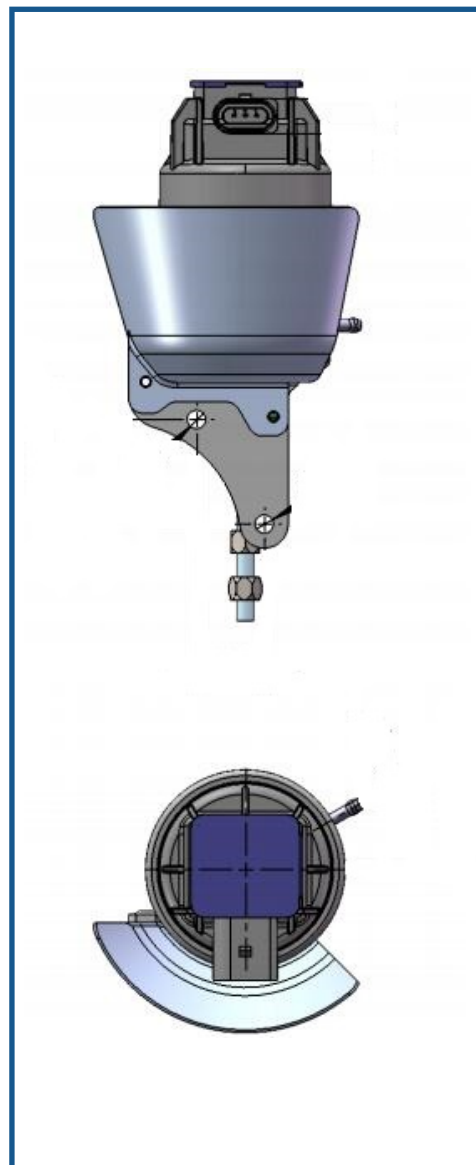
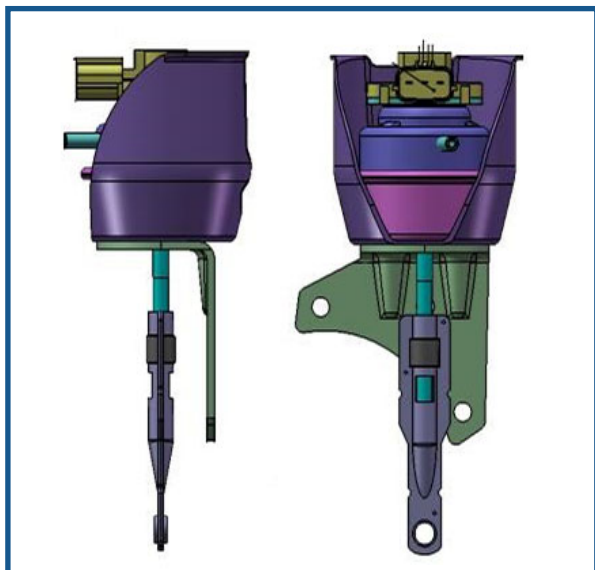
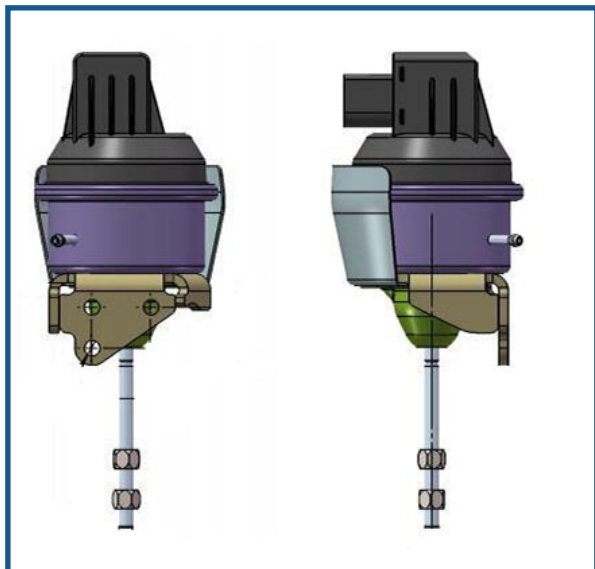




Product

Electronic Actuator

*Pneumatic actuator with position sensor*



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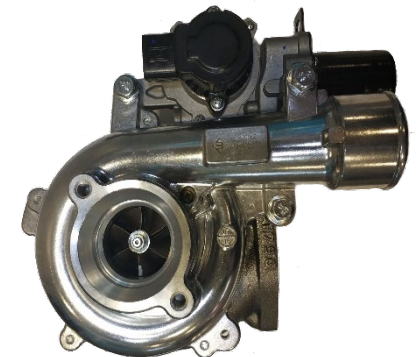
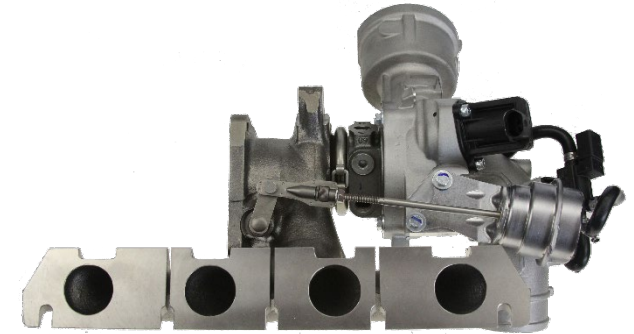


*Product*

Turbocharger

## *System Function Description*

The turbocharger drives the turbine compressor through the exhaust gas from the engine to compress the air to increase the gas density and increase the intake of the air and better meet the combustion efficiency of the fuel.





Thanks!

