

**WEICHAI**

# WEICHAI POWER TRUCK ENGINE



**WEICHAI POWER CO.,LTD**

Address:197A,Fushou East Street,  
High-Tech Development Zone,Weifang,China  
Website:<http://www.weichai.com>

Specifications are subject to change without notice

**WEICHAI POWER CO., LTD.**

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**WEICHAI**

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# GROUP OVERVIEW

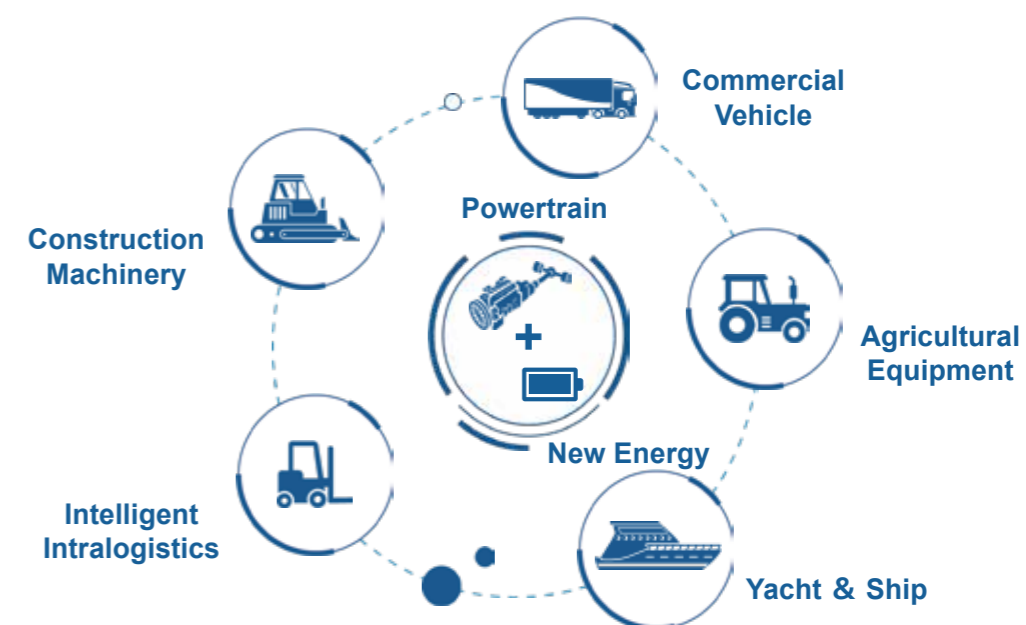
## ABOUT US

Founded in 1946, Weichai Holding Group Co., Ltd. is a leading multinational industrial equipment group in China with significant global influence. The Group has Weichai Power, Shacman Truck, Weichai Lovol Intelligent Agriculture, Fast Transmission, Hande Axle, Torch Spark Plug, Ferretti of Italy, KION of Germany, Linde Hydraulics of Germany, Dematic of the U.S., PSI of the U.S., Baudouin of France, Ballard of Canada and other well-known brands at home and abroad. The Group has 10 stocks from 8 companies listed at home and abroad, a global workforce of 100,000 and an annual revenue of more than 300 billion yuan.

The Group's main business covers powertrain systems, commercial vehicles, agricultural equipment, construction machineries, intelligent logistics, and marine mobility. It has subsidiaries in Europe, North America, Asia and other regions, and its products are exported to more than 150 countries and regions in the world. Its sales volume of heavy-duty engine and heavy-duty transmission is the first in the world; the industrial forklift and luxury yacht are leading the world; the sales volume of agricultural equipment is the first in China; the heavy-duty trucks are leading in China. It has the State key Laboratory of Engine and Powertrain System, the National Fuel Cell Technology Innovation Center, the National Internal Combustion Engine Industry Measurement and Testing Center, the National Internal Combustion Engine Product Quality Inspection and Testing Center, the National Commercial Vehicle Powertrain System Assembly Engineering and Technology Research Center and other national-level platforms. It has established cutting-edge technology innovation centers in many places around the world, and set up global collaborative R&D system.



## BUSINESS SEGMENTS

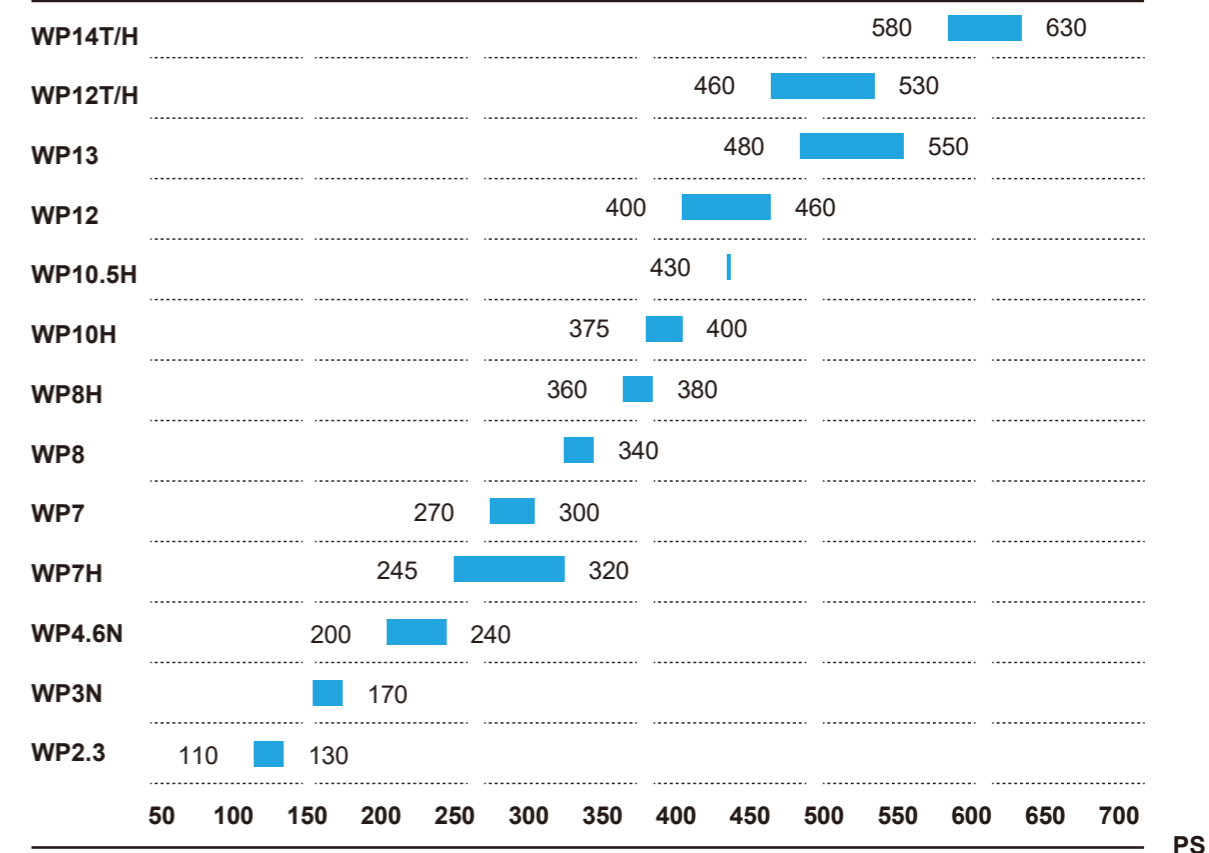




# PORTFOLIO

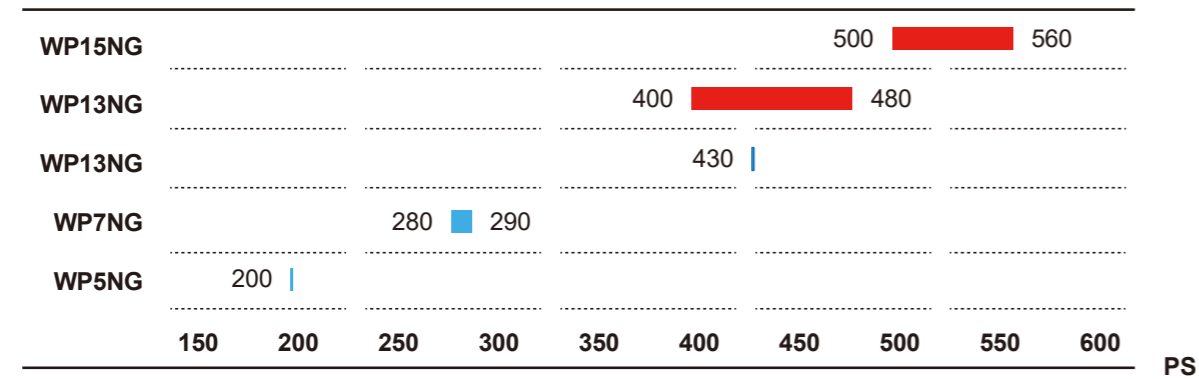
## Euro V Diesel Engine

Technical Solution: Common Rail + SCR



## Euro V Gas Engine

Technical Solution: SPI + Lean Burn + DOC

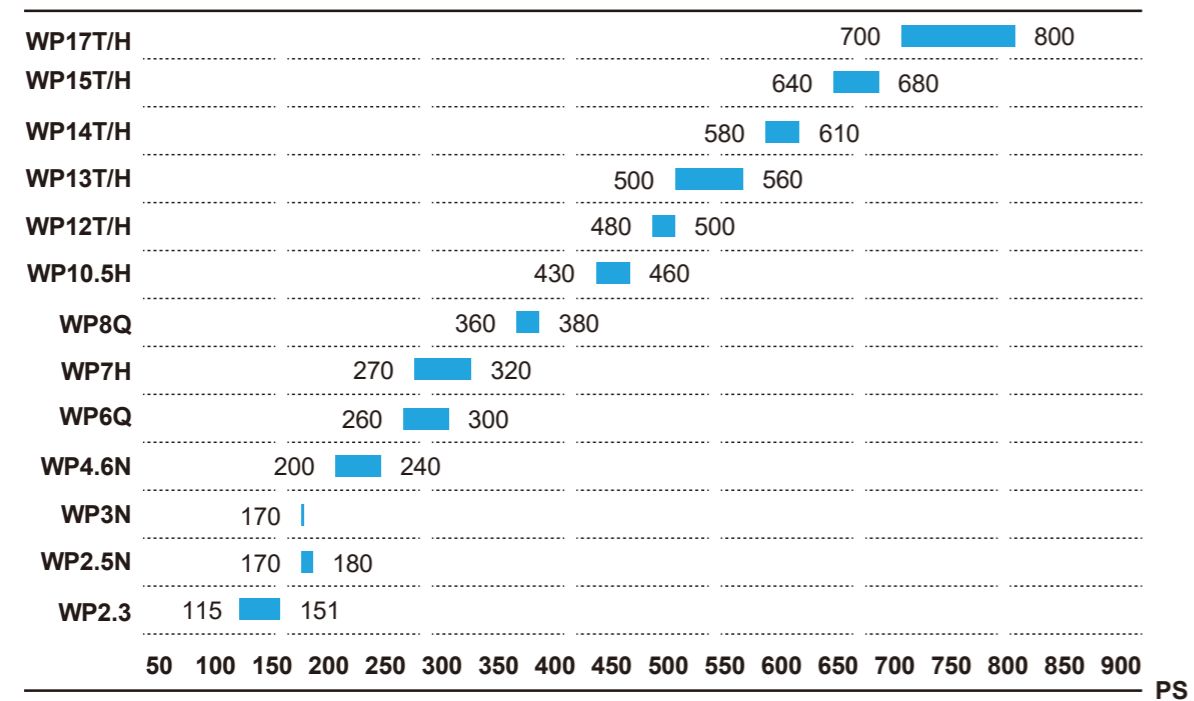


SPI: Single Point Injection

SPI+ER+EGR+TWC  
 SPI+Lean Burn + DOC

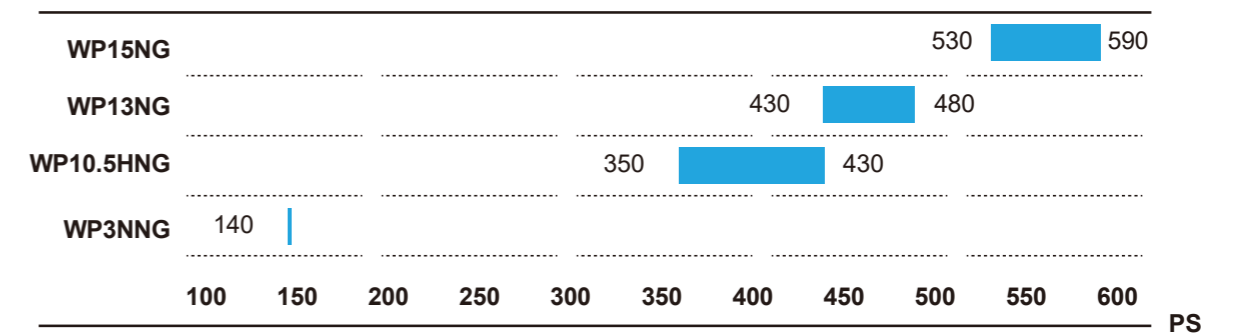
## Euro VI Diesel Engine

Technical Solution: Common Rail + DOC + DPF + Hi-SCR



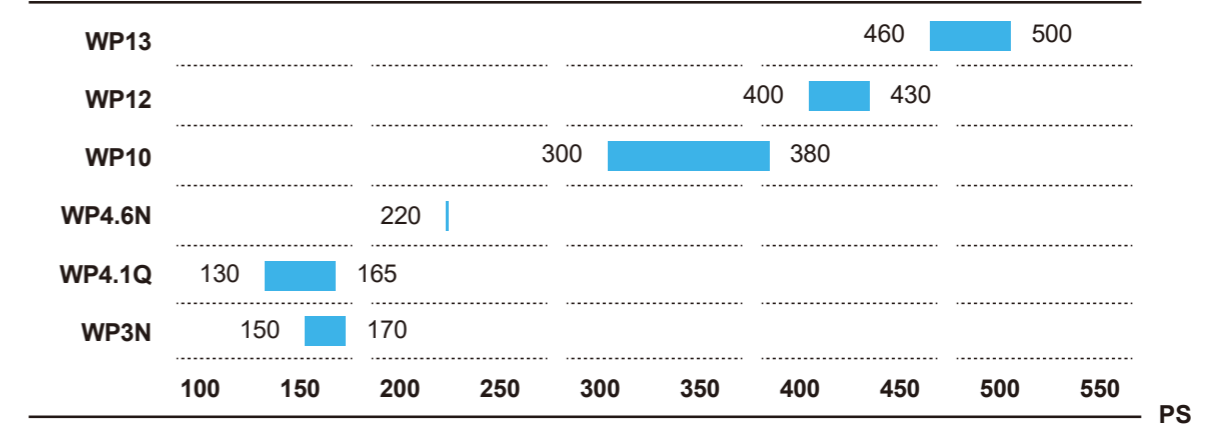
## Euro VI Gas Engine

Technical Solution: SPI+ER+EGR+TWC

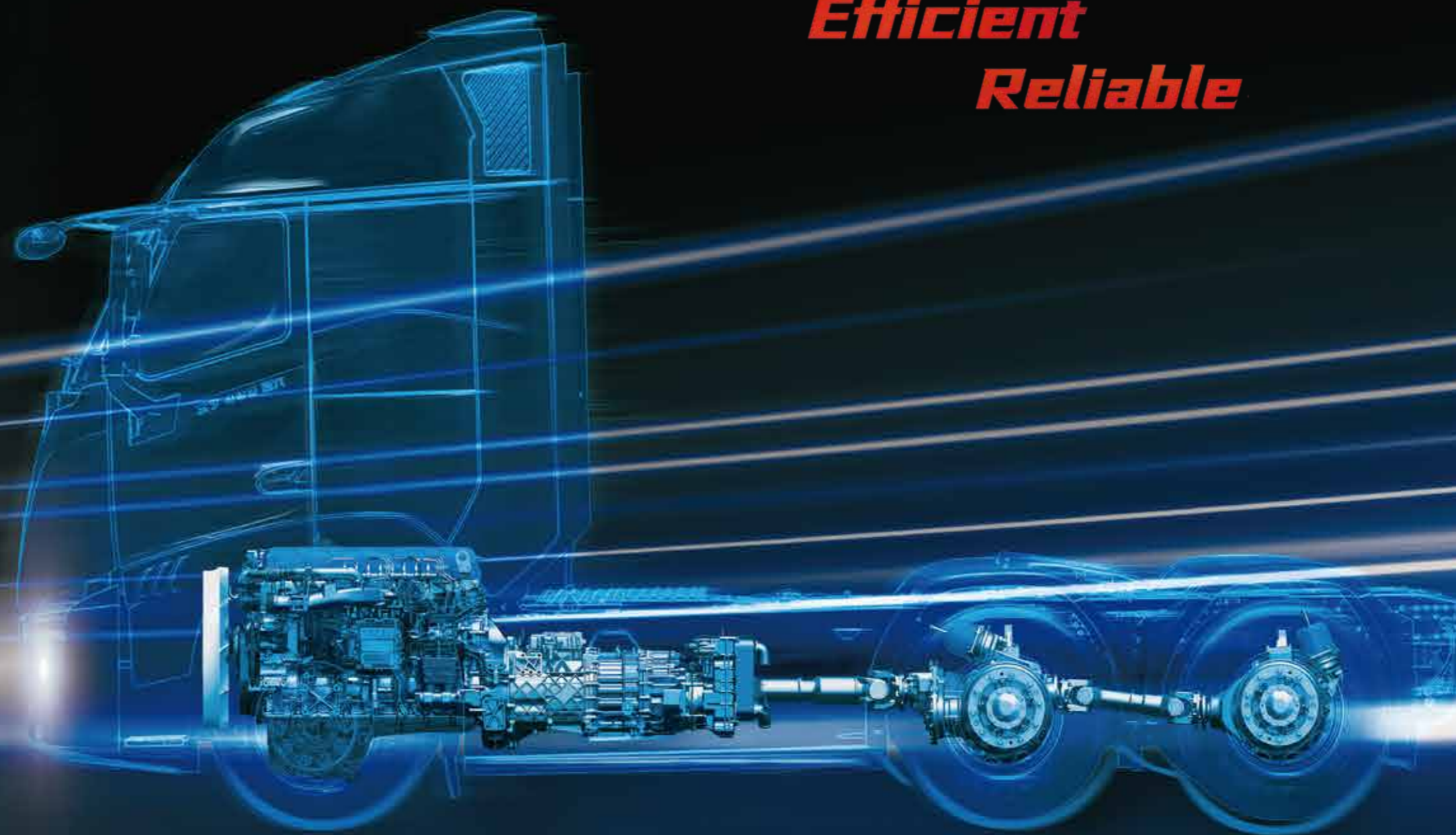


SPI: Single Point Injection  
 ER: Equivalent Burn  
 TWC: Three-Way Catalyst

## NO emission



***Efficient***  
***Reliable***





# DIESEL ENGINE

Light Duty

**WEICHA POWER**

# TRUCK ENGINE

**DIESEL ENGINE**

■ Typical application



■ Specifications

Model	WP2.3Q		WP2.5N
Type	4-in line, turbocharged & intercooled		
Disp.(L)	2.289		2.493
Rated Power (PS)	110/140	115/140/145/151	170/180
Rated Speed (r/min)	3200	3200	2900
Max. Torque (N·m)	280-320	280-340	500
G Weight (kg) <sup>◆</sup> (DIN 70020)	230	230	230
Emission	Euro V	Euro VI	Euro VI
L×W×H(mm) <sup>◆</sup>	787×640×720		728×630×762

◆ Values are subject to final application

# DIESEL ENGINE

Light Duty



## Typical application



## Specifications

Model	WP3N		WP4.6N	
Type	4-in line, turbocharged & intercooled			
Disp.(L)	2.97		4.58	
Rated Power (PS)	150/160/170	170	200/220/240	200/220/240
Rated Speed (r/min)	3000	2800	2300	2300
Max. Torque (N·m)	430-520	520	750-850	700-850
G Weight (kg) <sup>◆</sup> (DIN 70020)	290	290	393	393
Emission	Euro V	Euro VI	Euro V	Euro VI
L×W×H(mm) <sup>◆</sup>	850×686×759		986×772×829	

◆ Values are subject to final application

# DIESEL ENGINE

Medium Duty



## Typical application



## Specifications

Model	WP7H		WP8	WP8H
Type	6-in line, turbocharged & intercooled			
Disp.(L)	6.8		7.8	8.24
Rated Power (PS)	245/270/300/320	270/300/320	320/340	360/380
Rated Speed (r/min)	2100	2100	2100	2100
Max. Torque (N·m)	950-1300	1000-1300	1300-1400	1400-1600
G Weight (kg) <sup>◆</sup> (DIN 70020)	590	590	650	600
Emission	Euro V	Euro VI	Euro V	Euro V   Euro VI
L×W×H(mm) <sup>◆</sup>	1320×1062×900		1406 × 846 × 1026	1140×950×960

◆ Values are subject to final application

# DIESEL ENGINE

Heavy Duty



## ■ Typical application



## ■ Specifications

Model	WP10H	WP10.5H	
Type	6-in line, turbocharged & intercooled		
Disp.(L)	9.5	10.5	
Rated Power (PS)	375/400	430	430/460
Rated Speed (r/min)	1900	1900	1900
Max. Torque (N·m)	1800	2000	2000-2100
G Weight (kg) <sup>◆</sup> (DIN 70020)	815	815	815
Emission	Euro V	Euro V	Euro VI
L×W×H(mm) <sup>◆</sup>	1291 × 975 × 1153	1291 × 975 × 1153	

◆ Values are subject to final application

# DIESEL ENGINE

Heavy Duty



## ■ Typical application



## ■ Specifications

Model	WP12	WP13
Type	6-in line, turbocharged & intercooled	
Disp.(L)	11.596	12.54
Rated Power (PS)	400/430/460	480/500/530/550
Rated Speed (r/min)	1900	1900
Max. Torque (N·m)	1920-2110	2300-2550
G Weight (kg) <sup>◆</sup> (DIN 70020)	1000	1000
Emission	Euro V	Euro V
L×W×H(mm) <sup>◆</sup>	1573×865×1110	1524 × 863 × 1133

◆ Values are subject to final application

# DIESEL ENGINE

Heavy Duty



■ Typical application



■ Specifications

Model	WP12T/H	WP13T/H	WP14T/H	WP15T/H	WP17T/H		
Type	6-in line, turbocharged & intercooled						
Disp.(L)	11.5	12.9	13.5	14.6	16.6		
Rated Power (PS)	460/480/530	480/500	500/530/560	580/610/630	580/610	640/680	700/800
Rated Speed (r/min)	1800	1800	1800	1800	1800	1800	1800
Max. Torque (N·m)	2000-2400	2300	2400-2600	2700-2750	2700-2750	3000	3200/3400/3750
G Weight (kg) <sup>◆</sup> (DIN 70020)	890	890	1010	1010	1010	1030	1380
Emission	Euro V	Euro VI	Euro VI	Euro V	Euro VI	Euro VI	Euro VI
L×W×H(mm) <sup>◆</sup>	1289 × 1112 × 1106	1344×964×1145	1352×1112×1149	1352×1112×1149	1535×1242×724		

◆ Values are subject to final application

**WEICHAI POWER**

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# TRUCK ENGINE

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**GAS ENGINE**

# GAS ENGINE

Medium Duty



■ Typical application



■ Specifications

Model	WP3NNG	WP5NG
Type	4-in line, turbocharged & intercooled	
Disp.(L)	2.97	4.98
Rated Power (PS)	140	200
Rated Speed (r/min)	2800	2100
Max. Torque (N·m)	450	665
G Weight (kg) <sup>◆</sup> (DIN 70020)	335	500
Emission	Euro VI	Euro V
L×W×H <sup>◆</sup>	839×756×799	897×757×1126

◆ Values are subject to final application

# GAS ENGINE

Medium Duty



■ Typical application



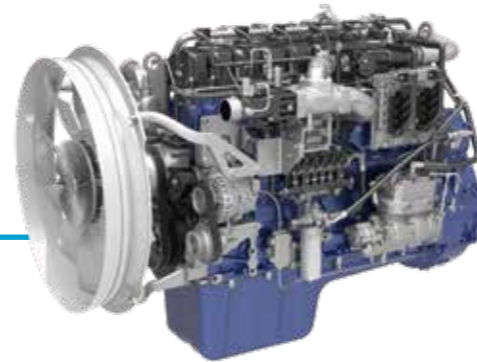
■ Specifications

Model	WP7NG
Type	6-in line, turbocharged & intercooled
Disp.(L)	7.47
Rated Power (PS)	280/290
Rated Speed (r/min)	2100
Max. Torque (N·m)	1100
G Weight (kg) <sup>◆</sup> (DIN 70020)	650
Emission	Euro V
L×W×H <sup>◆</sup>	1494×713×1099

◆ Values are subject to final application

# GAS ENGINE

Heavy Duty



## ■ Typical application



## ■ Specifications

Model	WP10.5HNG
Type	6-in line, turbocharged & intercooled
Disp.(L)	10.5
Rated Power (PS)	350/390/410/430
Rated Speed (r/min)	1900
Max. Torque (N·m)	1500-1950
G Weight (kg) <sup>◆</sup> (DIN 70020)	835
Emission	Euro VI
L×W×H <sup>◆</sup>	1499 × 989 × 1171

◆ Values are subject to final application

# GAS ENGINE

Heavy Duty



## ■ Typical application



## ■ Specifications

Model	WP13NG		
Type	6-in line, turbocharged & intercooled		
Disp.(L)	12.54		
Rated Power (PS)	430	400/430/480	430/460/480
Rated Speed (r/min)	1900	1900	1900
Max. Torque (N·m)	2000	2100-2300	2200-2300
G Weight (kg) <sup>◆</sup> (DIN 70020)	1050	1050	1050
Emission	Euro V	Euro V	Euro VI
L×W×H <sup>◆</sup>	1537 × 892 × 1134		

◆ Values are subject to final application

# GAS ENGINE

Heavy Duty



■ Typical application



■ Specifications

Model	WP15NG	
Type	6-in line, turbocharged & intercooled	
Disp.(L)	14.56	
Rated Power (PS)	500/530/560	530/560/590
Rated Speed (r/min)	1700	1700
Max. Torque (N·m)	2400-2600	2500-2600
G Weight (kg)♦ (DIN 70020)	1050	1050
Emission	Euro V	Euro VI
L×W×H♦	1350×1108×1114	

♦ Values are subject to final application

**WEICHAI POWER**

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# TRUCK ENGINE

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**NEW ENERGY POWER**

## Pure Electric Powertrain

E-axle powertrain for electric light duty truck



Unit Model		3 T axle
Battery	Energy(kWh)	81/89/100
	Energy density (Wh/kg)	158.9
Pin-air motor	Continuous/Peak power (kW)	65/130
	Rated/Peak torque (N.m)	160/360
	Max. speed (rpm)	12000
Inverter	WMC52 multi-in-one	
Typical Application	Intercity logistics, cold-chai transportation	

## Pure Electric Powertrain

Central drive powertrain for electric heavy duty truck



Unit Model	WTS26000	
Continuous/Peak power (kW)	290/430	270/420
Rated/Peak torque (N.m)	1750/2800	1500/2800
Gearbox	4AMT (9.28 / 4.65 / 2.16 / 1.0)	
Inverter	WMC64 Multi-in-one	
Typical application	Mine truck , Short distance transport	

# Hybrid Powertrain

## WPH2.3N Hybrid Powertrain



Unit Model		WPH2.3N-145
Rated/Peak power (kW)		145/175
Engine		WP2.3N150E61
Motor	Rated/Peak power (kW)	35/70
	Rated/Peak torque (N.m)	160/360
Inverter		WMC43
VCU		HTCU
Gearbox controller		
Gearbox		6AMT
Typical application		Intercity logistics, cold-chai

# Hybrid Powertrain

## WPH12 Hybrid Powertrain



Unit Model		WPH12-438
Rated/Peak power (kW)		438/538
Engine		WP12.460E62
Motor	Rated/Peak power (kW)	100/200
	Rated/Peak torque (N.m)	930/2100
Inverter		WMC13
VCU		WISE13M
Gearbox controller		WISE42
Gearbox		12AMT
Typical application		8×4 dump truck, 6×4 tractor

# Battery

89 / 100kWh battery



Unit Model	WEB515V173-01	WEB580V173-01
Rated voltage(V)	515.2	515.2
Rated Energy(kWh)	89.13	100.27
Continuous/Peak discharge current	1C/2C	1C/2C
Continuous/Peak charge current	1C/2C	1C/2C
Single PACK size(mm)	1720×570×255	1882×570×255
Single PACK weight(kg)	305	340
Energy density(Wh/kg)	148	150
Working temperature range	-35℃~65℃	-35℃~65℃
Typical application	4.5t light truck	

# Battery

282 / 350kWh battery



Unit Model	WEB614V460-01	WEB576V608-01
Rated voltage(V)	614.4	576
Rated Energy(kWh)	282.6	350.2
Continuous/Peak discharge current	1C/2C	1C/2C
Continuous/Peak charge current	1C/2C	1C/2C
Single PACK size(mm)	1060×630×240	1060×630×240
Single PACK weight(kg)	255	225
Energy density(Wh/kg)	160	160
Working temperature range	-35℃~65℃	-35℃~65℃
Typical application	Heavy truck, construction machinery	

WEICHA POWER  
**TRUCK ENGINE**  
OPTIONAL CONFIGURATION



Optional Configuration >>>

## OPTIONAL CONFIGURATION

### Engine Braking System(WCBS)



**Blow down**

Driven by exhaust back pressure



**Compression release braking**

Driven by solenoid actuator

Model	Braking type	Braking efficiency	Braking power (kW/L)	Remarks
WP4.6N	BD	50-60%	16.5	●
WP7H	CRB	80-90%	23.5	●
WP8	BD	50-60%	15.8	●
WP10.5H	CRB	80-90%	26	●
WP12/WP13	CRB	80-90%	21	●
WP12T/H WP13T/H WP14T/H WP15T/H WP17T/H	CRB	80-90%	26	●

● standard ○ optional

## OPTIONAL CONFIGURATION

### After-treatment Diesel Engine



Model	Volume of Urea Tank	SCR (Euro V)	DOC-DPF-SCR (Euro VI)
WP2.5N	20L	Column	N/A
WP2.3Q	20L	Column	Column
WP3N	20L	Column	Column
WP4.6N	20L	Column	Column/Cube
WP7H	35L	N/A	U-shape
WP8	35L	Column/Cube	Column/ Cube
WP10.5H	35L/50L	Cube	Cube
WP12	35L/50L	Cube	Cube
WP13	35L/50L	Cube	Cube
WP12T/H	45L/72L/90L	Cube	U- shape
WP13T/H	45L/72L/90L	N/A	Cube/U- shape
WP14T/H	45L/72L/90L	Cube	Cube/U- shape
WP15T/H	45L/72L/90L	N/A	Cube/U- shape
WP17T/H	45L/72L/90L	N/A	Cube/U- shape

◆ Values are subject to final application

## OPTIONAL CONFIGURATION

Aftertreatment  
Gas Engine

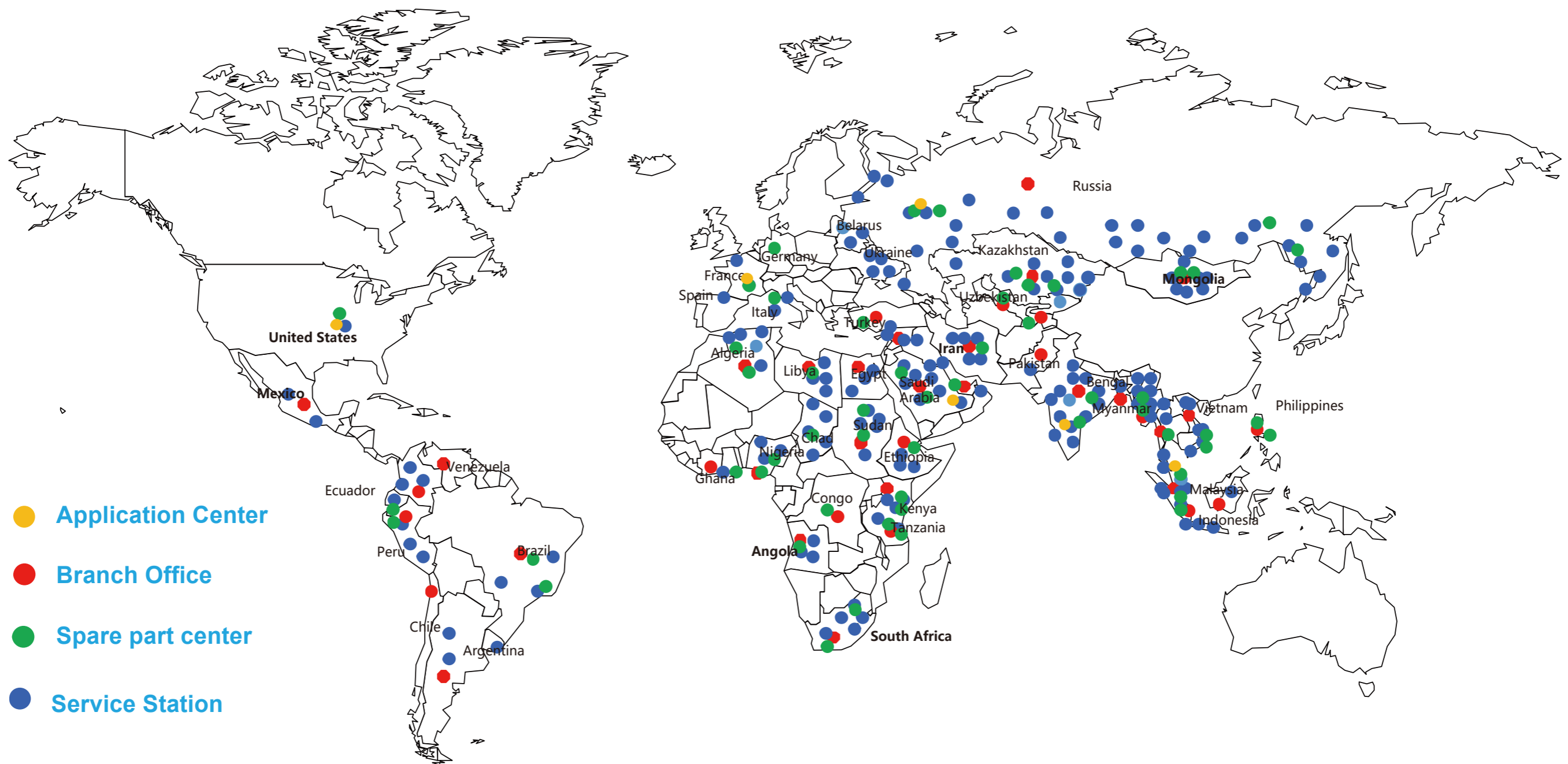


Model	Shape of DOC (Euro V)	Shape of TWC (Euro VI)
WP3NNG	N/A	Cube
WP5NG	Column	N/A
WP7NG	Column	N/A
WP8NG	N/A	Cube
WP10.5HNG	N/A	Cube
WP13NG	Cube	Cube
WP15NG	Cube	Cube

◆ Values are subject to final application.



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