



## OVERVIEW

► **Comprehensive power coverage**

Our diesel locomotives can be tailored to suit different power requirements in order to ensure outstanding performance across both passenger and freight transportation. Available as both AC or DC driven locomotives, they range from 1,000HP to 6,000HP.

► **Adaptable to different speeds**

Our diesel locomotives can reach up to 160km/h on passenger trains, and up to 120km/h on freight trains.

► **Adaptable to different wheelbases, wheel arrangements and track gauges**

Our diesel locomotives are fully adaptable to suit your needs. Designed for a standard track gauge of 1,435mm, we have also developed solutions for broad (1,520mm, 1,676mm) and narrow (1,065mm, 1,067mm, etc.) track gauges. The wheel arrangement covers a wide range of specifications, including C0-C0, B0-B0, and A1A-A1A. Our diesel trains meet all necessary standards from the UIC, AAR, CNS and specific gauges in other countries and regions.

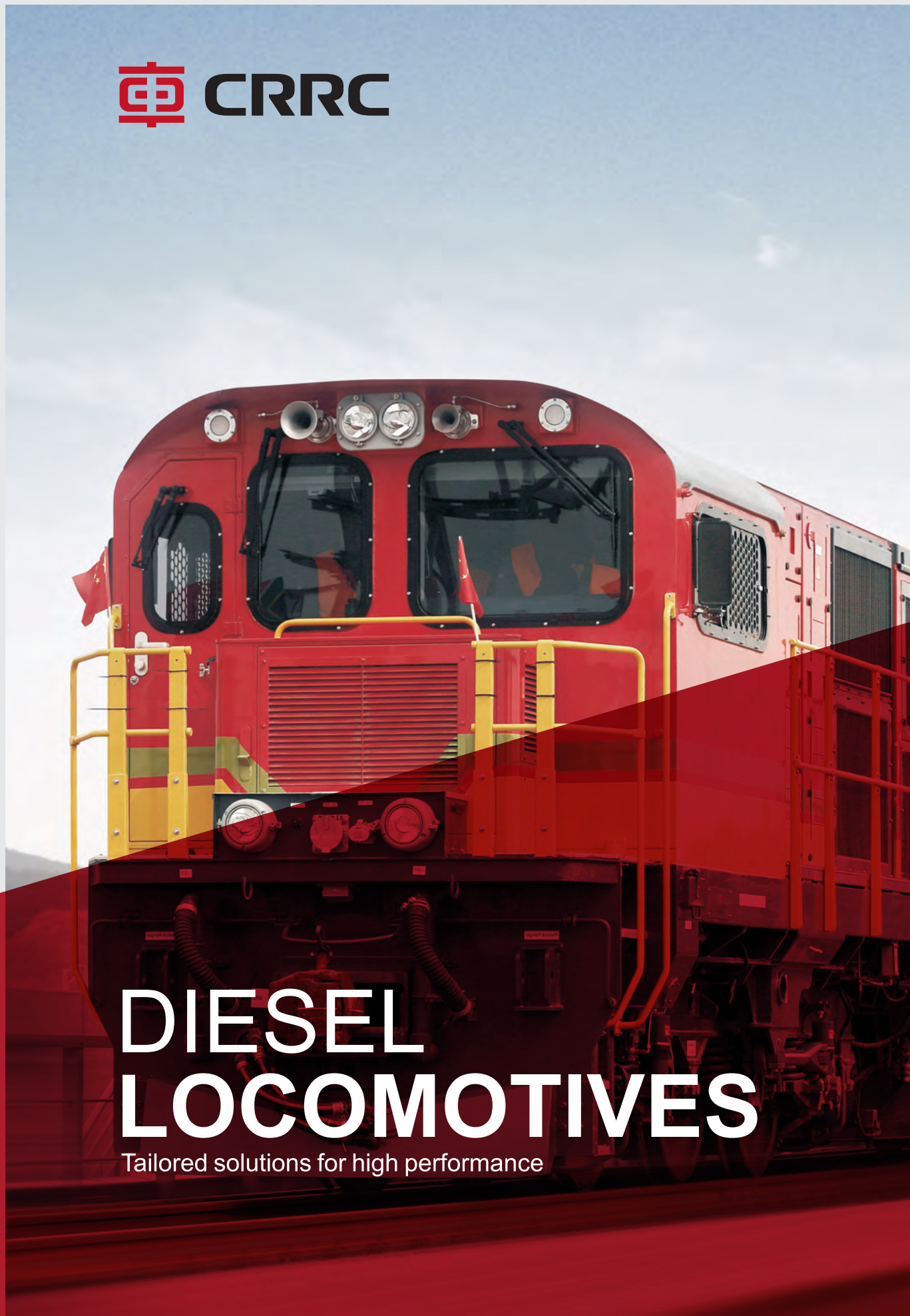
WORKING WITH YOU TO  
CONNECT THE WORLD



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# DIESEL LOCOMOTIVES

Tailored solutions for high performance



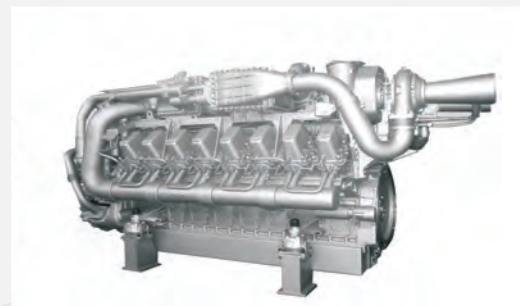


▶ **LIFESPAN**

▶ Our diesel locomotives are designed for a lifespan of over 30 years. The MDBF of our vehicles exceeds one million kilometers.

▶ **HIGH PERFORMANCE DIESEL ENGINE**

▶ Our locomotives feature the D180 series high-speed diesel engine. This is the most advanced engine on the international market and is high performing, energy saving, low cost and low emissions. The D180 series diesel engine is mainly used in railway locomotives, but can also be used to power ships.



▶ **TECHNICAL SPECIFICATION OF D180 SERIES DIESEL ENGINE**

Bore	mm	180			
No. & arrangement of cylinders	—	V8	V12	V16	V20
Rated speed	rpm	1,800			
Rated power	kW	1,640	2,460	3,280	4,200
Mean effective pressure	bar	25			
Maximum pressure	bar	250			
Specific fuel consumption	g/kWh	≤195			
Emission level	—	EU IIIB、EUIIIA			

**MAIN FEATURES**

▶ **ENVIRONMENTAL ADAPTABILITY**

- ▶ Ambient temperature: -40 ~+50°C;
- ▶ Average humidity: 80%;
- ▶ Maximum humidity: 100%;
- ▶ Altitude: ≤5100m;
- ▶ Our diesel locomotives are also suitable for coastal areas with heavy salt spray; dry, dusty and windy inland areas; as well as areas where seeds and dried leaves may obstruct the tracks.

▶ **SAFE AND RELIABLE**

- ▶ No flammable materials are used during the manufacture of our locomotives or their components. Materials that may release toxic or harmful gasses during manufacture are also strictly forbidden.
- ▶ Our vehicles' RAMS performance is evaluated at the beginning of the design stage in order to improve the safety, reliability, and maintainability of our products.

▶ **ADVANCED NETWORK MANAGEMENT**

▶ The TCMS onboard our diesel locomotives is based on a distributed network architecture that facilitates the control, monitoring, diagnosis, recording and marshaling of our vehicles. Advanced TCN bus technology and wireless DP technology combine to enable the MU control of up to eight locomotives, and to support the wireless MU control of four locomotives. This complex micro-computer network control system is fully tested prior to installation through a range of environments (laboratory, ground control center and working locomotives) in order to ensure full reliability.

▶ **CUSTOMIZABLE MODULES**

▶ Our locomotives are made up of over 1500 functional modular parts, which means we can easily design new locomotives to suit a client's individual requirements

**MAIN TECHNICAL SPECIFICATIONS OF SOUTH AFIRA DIESEL LOCOMOTIVES**

Wheel arrangement	C0-C0
Axle load	21t±3%
Transmission	AC-DC-AC
Service power	3,300kW
Traction power at wheel rim	2,533 kW
Starting effort	500 kN
Continuous effort	397 kN
Min. curve negotiation radius	85m
Max. speed	100 km/h



**APPLICATIONS OF CRRC DIESEL LOCOMOTIVES AROUND THE WORLD**

CRRC has supplied diesel locomotives to over 20 countries and regions to date, from Asia and Oceania to Africa and South America. New Zealand recently placed its third consecutive order, which now totals 48 locomotives. In 2014, CRRC received an order from South Africa to supply 232 diesel trains – the largest diesel locomotive export project in the history of CRRC.

