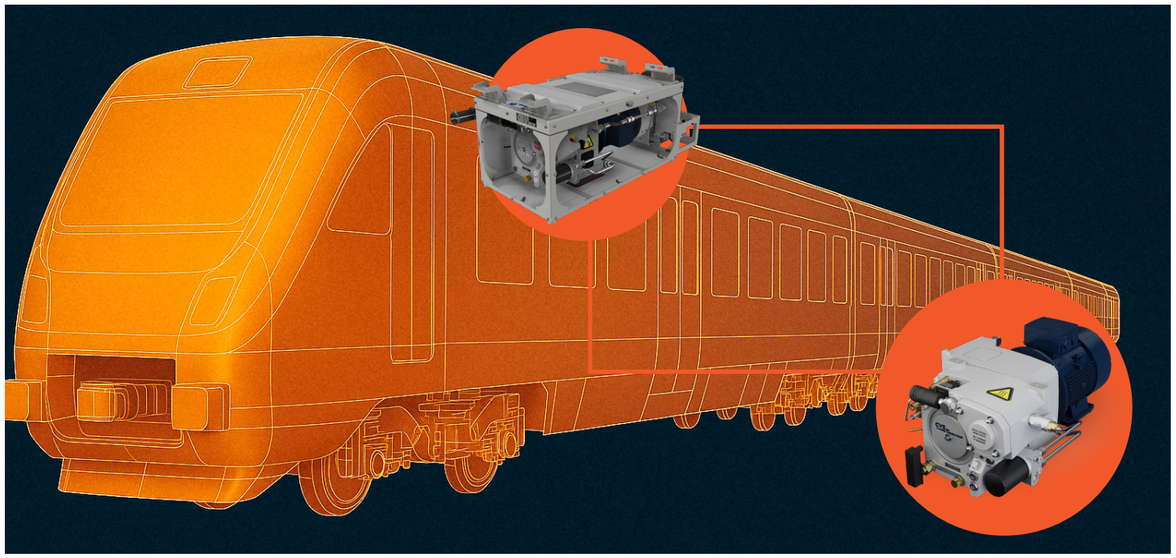
CVS ENG.
THINKING AHEAD

Application brochure

Compressors and systems for railway

RPO Compressor

RPO Series



CVS compressors and compressed air systems are used in trains to supply various applications in the vehicle with compressed air. Some of the main applications are listed below:

1. Brakes:

Brake actuation requires the use of compressed air. The parking brake is also operated with compressed air. RPO compressed air systems have been supplying compressed air for braking processes reliably for more than a decade and a half.

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2. Flange lubrication system:

To reduce friction between the wheel flange and the rail, especially when going through curves, many trains use a flange lubrication system. The RPO compressors reliably supply the necessary compressed air to spray lubricant onto the wheel flange, helping to minimize wear and improve track stability.

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3. Sanding system:

For better traction and shorter braking distances, many rail vehicles are equipped with a sanding system. The RPO compressors provide the compressed air needed to blow sand directly onto the rail surface, improving grip especially in wet or slippery conditions.

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4. Horn and whistle systems:

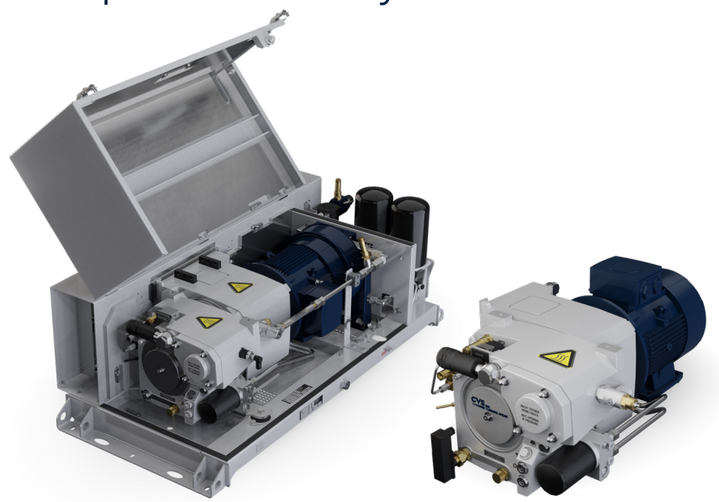
For reliable acoustic signaling at level crossings and stations, RPO compressors ensure a constant supply of compressed air for horns and whistles.

RPO

Compressors & Compressed air systems

Consist of:

- Compressor
- Driving motor
- Frame
- Air treatment
- Compressor-management (optional)
- Cover (optional)



Key Advantages of CVS Multi-Cell Compressors:

Efficient compressed air generation
optimized for trains and railway applications

Compact and lightweight
low installation height and weight for space-saving integration

Low noise and vibration
quiet operation enhances vehicle comfort and acoustic performance

Easy, single-side maintenance
reduces service time and simplifies access

Long service intervals and low life cycle costs
ensures cost-effective and reliable operation

Flexible installation and design
adaptable to various installation conditions and available in standard or custom configurations

Reliable Compression Technology for Mobile Applications

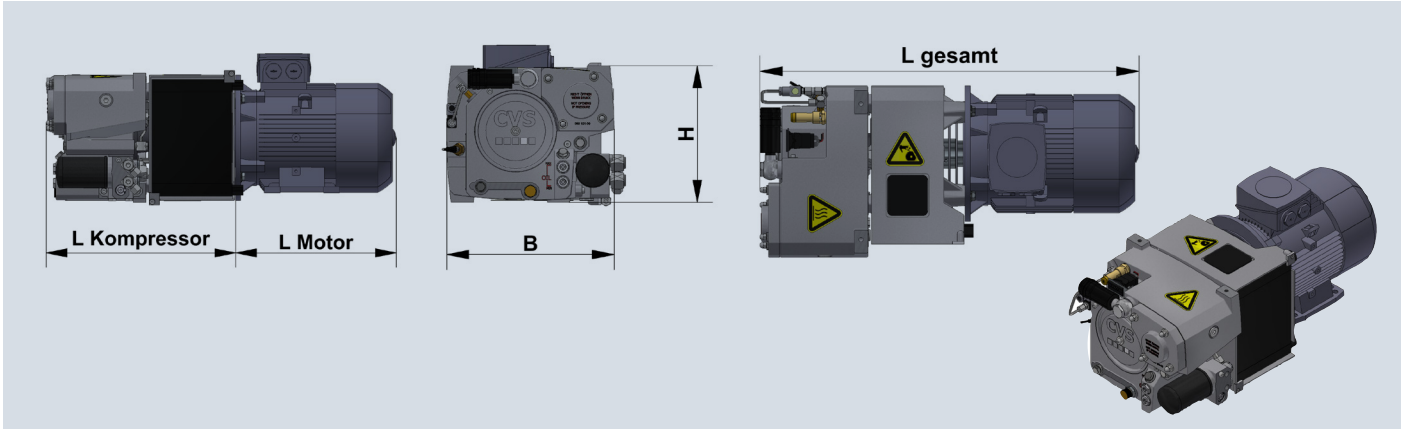
This technology offers a smooth and pulse-free airflow, ensuring consistent pressure and enhanced comfort – essential for modern mobility systems. Thanks to its compact design with fewer moving parts, it is highly reliable, quiet in operation, and easy to maintain. Especially efficient at low to medium pressures (1.5–10 bar), it's perfectly suited for use in railway and bus applications. The integrated oil-based system ensures effective cooling, lubrication, and sealing – all contributing to a long service life and excellent overall efficiency.

Technical data:

		RPO 200	RPO 300	RPO 400	RPO 600	RPO 800
L Total	mm	803.5		797	842	949
L Compressor	mm	468			457	564
L Motor	mm	335.5		329	385	385
B	mm	391				
H	mm	310				
Intake volume flow [1]	ltr/min	180	260	380	550	770
Power requirement at shaft [1]	kW	2.1 (2.4)	2.8 (3.2)	3.8 (4.2)	5.2 (5.7)	7.2 (8.0)
Rated motor power [1]	kW	2.2 (3)	3 (4)	4 (5.5)	5.5 (7.5)	7.5 (11)
Max. operating pressure [2]	bar	10 (12)				
Speed [1]	1/min	1420		1440	1455	
Speed range	1/min	900 - 1900				
Sound pressure level [3]	dB (A)	60	61	63		64
Oil capacity	ltr	2.4			2.6	3

[1] At discharge pressure 10 bar g
[2] At discharge pressure > 10 bar only in connection with load – no-load controller
[3] Sound pressure level according DIN 45635, n = 1500 1/min,
drive with 3-phase motor, at 7 m distance

Dimensions:



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