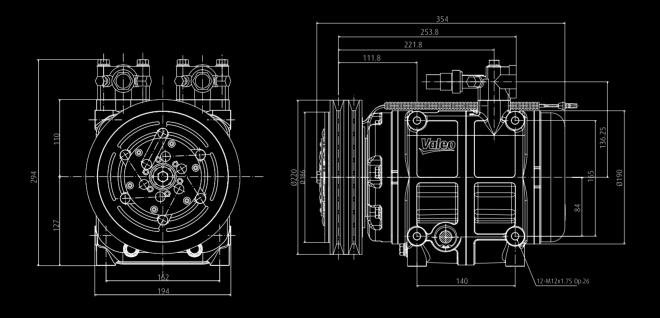
Heavy Duty Air Conditioning Compressors





valeo added IIIIIII





Valeo in the World History & Specialities Range & Benefits Production & Sites



Valeo Compressors

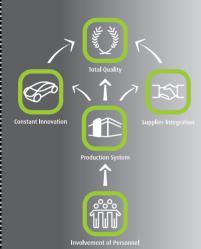


Valeo Compressors: high performance, best reliability and service

5 axes for customer satisfaction

Valeo Compressors is dedicated to the Design, Production and Sales of air conditioning compressors.

Designing high performance and high efficiency compressors is a way for us to ensure our customers' business profitability and growth. Hundreds of engineers within our research and development department aim at delivering leading technologies and design solutions for your present and future needs.



Manufacturing excellence together with integration of the best suppliers is our way to guarantee that our compressors set the highest standard in quality and reliability. Total quality is achieved through the 5 axes methodology applied by all Valeo employees. Sales of compressors is for us an opportunity to bring value to our customers. Adding value implies that beyond ensuring on time delivery of quality products, we deliver a comprehensive service. Each of our sales engineers has worked several years in our Research and Development center, acquiring extensive knowledge of compressors and A/C loop. Our fully qualified sales engineers are always ready to support you in integrating our compressor into your unique system. We invite you to discover more about us and our products along this brochure. You may well discover along the following pages new solutions we can deliver and imagine how we can support your long term success.

Valeo Compressors brands

Valeo Compressors has the strength of an international corporation and distributes a complete range of compressors thanks to the rich cultural and technological background of 3 well known brands:





Tama Compressors is well known as the creator of the TM series. The legendary reliability of the TM series remains a tribute to its still growing success, and still remains unmatched by any imitation. The Tama brand is notably strong in the Asian market. Seltec brand fame is the result of the strong effort we have delivered for years to adapt to new customers especially in North American and European market. Valeo brand is also actively developing globally thanks to the strength and well-known excellence delivered by Valeo for years in all markets worldwide. Our technology and products are also re-branded by some distributors in select markets. Notably, the Zexel brand belongs to one of our Japanese aftermarket distributors.

Valeo group

PROFILE:

Valeo, an independent industrial group, ranks among the world's leading automotive suppliers.

Valeo is organized into 4 business groups, each of them split into product groups. Valeo Compressors is part of Thermal Systems, and propose innovative solutions that best fits today's OEM and Aftermarket needs.



Powertrain Systems







Thermal Systems







Confort & Driving assistance Systems







Visibility Systems









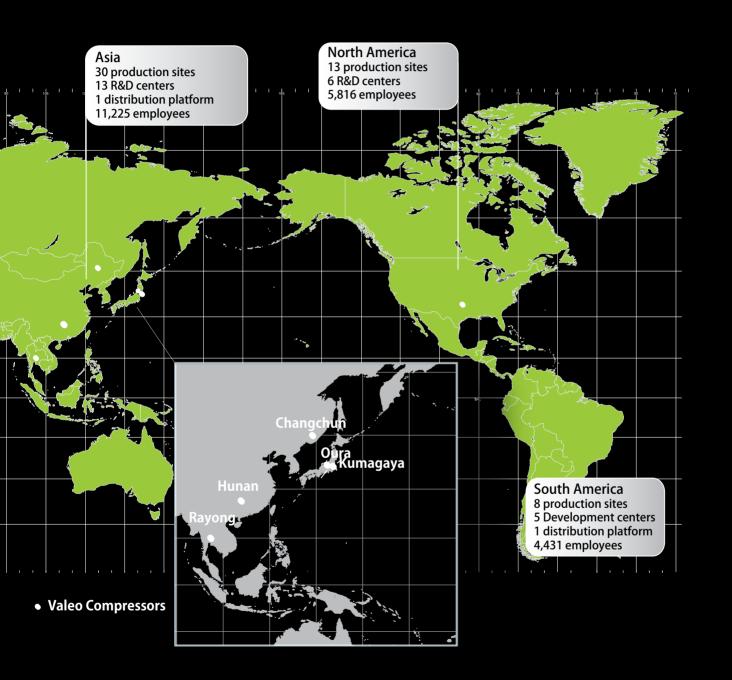
VALEO COMPRESSORS: > Sales 2010: 5,

Sales 2010: 5,5 million unitsWorkforce: 2,063 employeesHeadquarters: Tokyo - Japan

> Presence: 8 plants worldwide

7 R&D centers 15 sales offices



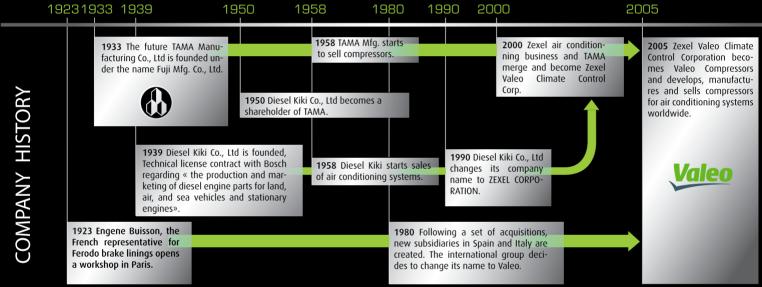


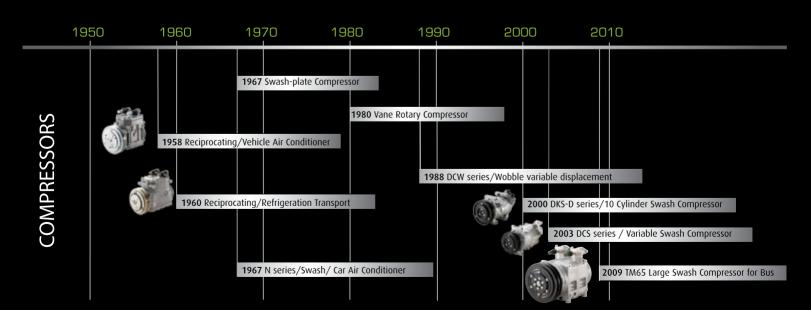
Valeo Compressors history

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The Valeo Compressors legacy goes back to 1958 in the Japanese prefecture of Gunma, when the company Tama manufacturing, founded in 1933, started to manufacture air-conditioning compressors. Tama manufacturing was renamed Zexel Valeo Climate Control Corporation in 2000 when it absorbed former Zexel group climate control business and welcomed Valeo group as one of its major shareholders. In 2005, Zexel Valeo Climate Control Corporation became a fully owned subsidiary of Valeo following a successful merger with Valeo Climate Control business. Since then, Valeo Compressors has been one of the fastest growing product families of Valeo Group, taking advantage of both eastern and western cultural backgrounds for superior quality and performance.



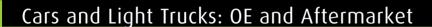




Solutions meeting customers' expectations

Valeo Compressors is one of the world's leading manufacturers of automotive air-conditioning and refrigeration compressors. Our advanced technology enables us to deliver a highly qualitative and cost competitive range of products which has established us as an Original Equipment supplier to most of leading vehicle manufacturers around the world.

Through a strong and productive partnership with automotive customers producing millions of vehicles every year, we are committed to achieving the highest customer satisfaction level in a wide range of applications. Dedicated technical and sales teams are devoted to maintaining and developing partnerships with Speciality vehicle manufacturers. Our Heavy Duty and Aftermarket dedicated business unit is currently covering all of the following specialities:



Our offer for Passenger Cars provides our customers with an access to original equipment (OE), remanufactured (eco-friendly) or matching quality compressors for most of today's running cars worldwide.



Trucks and Heavy Duty Vehicles:

Many truck and heavy duty vehicle makers around the world trust our product for long-run reliability. Heavy duty implies ultimate reliability under extreme conditions.





Buses and Coaches:

This speciality requires large displacement compressors for A/C systems cooling bigger volumes. Every year, buses and coaches running our compressors remain cool for millions of miles.



Industrial and Agriculture machines:

This speciality benefits from our experience in light trucks and passenger cars, as well as in heavy duty applications, allowing us to offer the best possible adaptation to specific needs.





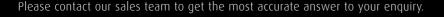


Refrigeration (transport):

Refrigerated transport requires specific refrigerants and the highest reliability standards. Partnerships with leading market distributors allow us to ensure end user satisfaction in every country.







Range of compressors



Our commitment is to deliver a product range that addresses our customers' needs and fully meets end-users' expectations. The only answer to this challenge is a strong investment in research and development which allows us to offer a wide range of displacements and applications. This achievement is the result of 50 years of design improvements for all technologies used today in our compressors.



		Reciprocating Type	Piston Type			Vane Rotary Type
Val	<u>eo</u>	Crank Shaft	Swash Plate Type Compressors			5 vanes
S	■ —— Displacement cm /ṙ̀ev.	Fixed Displacement			Variable Displacement	Fixed Displacement
SOF		DKP series	TM series	DKS series	DCS series	DKV series
Compressors				DKS-CH DKS-D DKS-DS		
0)	- - - 100 — - - - -		6 pistons 82			60 70 80
Small Vehicle		2 pistons 125	131 147 163	6 pistons 131 147 10 pistons 10 pistons 156 156	7 pistons	105 110 140
ehicle	200 —	3 pistons 189 226	10 pistons 215	168 ₁₇₅ 175	171	
Large Vehicle	300 - - 400 -		313		=	
I	500 — - 600 —		14 pistons 550 635		valed	added* [[[[[]]]]

Key benefits:

Fixed displacement swash plate piston type

- TM Series: TM08, TM13, TM15, TM16, TM21, TM31(DKS-32), TM55, TM65
- DKS Series: DKS13, DKS15, DKS17



- > Unlimited adaptations and field serviceable TM series
- Comprehensive range coverage from small engines to heavy duty including bus applications with TM and DKS series
- > State of the art design for best efficiency and performance



Fixed displacement reciprocating piston type

■ DKP Series: DKP12, DKP19, DKP23



- > Proven robust solution and reknown refrigeration application standard
- > Heavy duty durability
- > Long lasting performance



Fixed displacement vane rotary type

DKV Series: DKV06, DKV07, DKV08, DKV10, DKV11, DKV14



- > Light and robust design for small engine applications
- > Highest efficiency for passenger cars
- > Lower vibration and noise levels than scroll compressors



Variable displacement swash plate piston type

DCS Series: DCS17



- > Variable displacement providing on demand cooling capacity to A/C systems
- > Reduce significantly passenger car fuel consumption
- > Clutchless option reducing weight, noise and vibration level

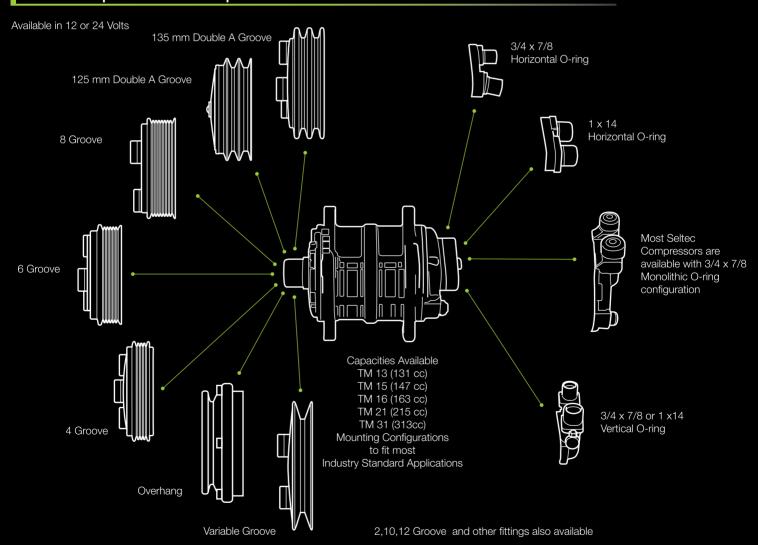


Compressors adaptations



The TM series compressors were designed to cover a wide range of applications, providing the best fit to the needs of A/C systems makers and any customer requiring adaptation flexibility. TM compressors also incorporate the latest design improvements in order to meet better the needs of today's heavy duty systems. TM compressors are designed to be field serviceable with parts which are available from your distributor and can be replaced at your local service facilities.

TM compressors' adaptations:



Global presence

Heavy Duty and Aftermarket Sales

Asia

Japan Sales Office

39, Sendai, Kumagaya-shi, Saitama-ken

360-193 Japan

Phone: +81 (0) 48 539 3801 Fax: +81 (0) 48 539 3843 Email: vc-oura-sales@valeo.com

China

China Sales Office

No.2677 Shiji Avenue, Eco. & Tec. Dvt Zone 130031

Changchun, Jilin PRC

Phone: +86 (0) 431 8499 2025 Fax: +86 (0) 431 8499 2004 Email: vc-changchun-sales@valeo.com

Europe & Middle East Africa

France Sales Office

6 rue François Cevert

BP71014 49015 Angers France Phone: +33 (0) 241 686 164 Fax: +33 (0) 241 686 239

Email: vc-angers-sales@valeo.com

Americas

North America Sales Office

Trade Center IV 2520 Esters Blvd #100 Dallas, TX 75261 United States

Phone: +1 972 456 1077 Fax: +1 972 574 1925

Email: vc-dallas-sales@valeo.com



Valeo Compressors Locations

Headquarters

Valeo Compressors

6F Minamo-shinjuku, hoshino-Bldg 5-23-13 Sentagaya Shibuya-ku 151-0051 Tokyo Japan

Production plants

Japan - Oura

Japan - Kumagaya

China – Changchun

Thailand – Rayong

Czech Republic - Humpolec Poland - Czechowice

Technical Centers

Japan - Kumagaya U.S.A. - Auburnhills Germany - Hockenheim

Valeo Compressors Quality for Heavy Duty





valeo added* IIIIIII

www.valeocompressors.com

Asia

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