



2025

IQ

Industry Qualification

Your reciprocating compressor training program from introductory to expert level inclusive calendar and registration


HOERBIGER



“

I evaluate the course very positively, both in theoretical and practical terms. It was nice to disassemble and assemble the compressor together with experienced practitioners, and I also learned a lot during conversations during breaks.

Senior Rotating Equipment Engineer, Polish refinery

“

We learned a lot about piston compressors, got an insight into the interaction between the crankshaft and the piston rod and how important the balance of forces is for operating the compressor.

EPC Germany

Overview

Industry Qualification

HOERBIGER qualification program enables you to strengthen your IQ as well as to become an expert in your daily work and especially in your industry. Follow your individual qualification path for even more success through professional development.

We offer you a completely modular training catalog. Because we want to ensure that the right training is available for you and your level of knowledge. In our **“Menu”**, you will find 24+ different training modules that you can attend online – Because they only take 1.5 hours each.

In our **“Knowledge Sessions”** we have already compiled a comprehensive training for you. Here, you can choose whether you want to start with the basics or directly acquire expert knowledge. But that's not all:

In our **“Overhaul School”**, consisting of theory and practice, you implement your received theoretical knowledge directly into practice on our training compressor.

The HOERBIGER **“Training Academy”** offers you the complete package: Starting with the theoretical introductory through to practical exercises, you will become an industry expert in 10 days.

You will find all the details on the following pages.

Become an industry expert: Your qualification path



Introductory level

On this level we provide all the relevant fundamentals to achieve a good technical understanding of reciprocating compressors theory and working principles. This is not just the pure basics, but on this level HOERBIGER also offers less complex topics. These trainings are highly recommended for graduates, and career changer.



Advanced level

If you already have good knowledge and experience in a subject area, HOERBIGER training package on an advanced level is exactly what you need. In these sessions you can deepen your knowledge about compressors and expand your professional skills in key areas on a system level. To participate in trainings on this level, you can attend courses from the introductory level in advance.



Expert level

For the step to be an absolute expert in a specialist area, we recommend this highest qualification level. With the relevant professional experience or participation in training courses of the two previous levels, you will receive comprehensive specialist knowledge at expert level that at the end, a short test is conducted to check your level of knowledge. This will be noted on the certificate, of course.

Our offering at a glance

Online training “Menu”

Choose what suits your “taste” best

- Training catalog
- 24 modules + 1
- 1.5 h each

Already working experience

- Getting to know each other and our training content
- Flexible online offering

All professional groups

- Update your knowledge
- Dive deep in specific topics

Knowledge Session (in person)

The selected program for you

- Training packages
- Introductory, Advanced & Expert level
- 2 days each

New in business

- Modular approach
- Training on demand
- Classroom sessions (offline)

Technical professional groups

- Qualification path (continuous education)
- Targeting specific contents

Overhaul School (in person)

Hands-on experience

- 2 days practical theory
- 2 days hands-on training (at the reciprocating compressor)

Operational

- Yearly scheduled
- Classroom sessions and practice (offline)

Operators and maintenance manager

- Qualification path (continuous education)
- Practical knowledge

Training Academy (in person)

Shaping reciprocating compressor experts

- 6 days theory
- 2 days practical theory
- 2 days hands-on training

Your talents

- Yearly scheduled
- Classroom sessions and practice (offline)

Rotating equipment engineers

- Full reciprocating compressor knowledge
- Technical diploma

Introduction of the products



HydroCOM – Stepless Capacity Control System

Since nearly three decades HydroCOM is the world-standard when it comes to stepless compressor capacity control. It does so by utilizing the reverse flow concept. The idea is simple. HydroCOM is delaying the start of compression inside the cylinder by actively keeping the suction valves open for a precisely controlled amount of time, until the desired capacity is reached – fully automatic, with every revolution of the compressor. Gas that is not required and does not need to be compressed can simply flow back to the suction side - hence the name reverse flow control. The required unloading force is generated by oil pressure. A solenoid valve is used for control. HydroCOM eliminates the need for energy-wasting bypass valves, saves energy while at the same time improving process control, and reduces the compressors OPEX and CO2 emissions.

eHydroCOM – Electric Stepless Capacity Control System

With the market launch of the fully electric eHydroCOM systems a cutting edge, completely oil-free solution for reverse flow control became available. The unloading force to keep the suction valve open is generated by means of an electromagnet. This system architecture renders hydraulics obsolete and allows highest standardization, thus simplifying installation, maintenance, repair, and asset management. With eHydroCOM compressor capacity control is easier than ever before. Two distinct system versions with different application limits are available.

eHydroCOM HD – Heavy Duty Single Stack Actuator

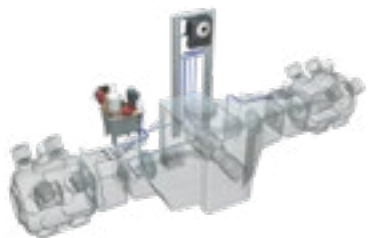
A system design to perform under heavy duties. This version offers best in class payback time and total cost of ownership, while being suitable for most applications.

eHydroCOM XD – Extreme Duty Double Stack Actuator

The most powerful and compact system for extreme duties. Ready for the most demanding high force or high-speed applications in the industry.

XperLube – Digital Commonrail Lubrication System

Reliable cylinder lubrication is one of the most sensitive issues for the operation of highly sophisticated reciprocating compressors. The wrong dosage can cause damage through wear or over-lubrication. This means: unscheduled downtime, costly production losses or consequential damage in other parts of the production. Time to delegate this important task. The XperLUBE system is designed to increase the performance and cost efficiency of your compressors. It does so by utilizing the common-rail concept, where each lubrication point is equipped with an individual injector, consisting of a solenoid valve for oil flow control and a sensor for oil flow monitoring. XperLUBE supplies your compressor with exactly the right amount of lubricant. Always. Under all conditions.



Can be merged with "Knowledge Sessions" depending on needs.

Our offering at a glance

HydroCOM – Stepless Capacity Control System (in person)

Hands-on experience

- 1½ days practical theory
- ½ day hands-on training

Operational

- Yearly scheduled
- Classroom sessions and practice (offline)

Operators and maintenance teams

- Qualification path (continuous education)
- Practical knowledge

eHydroCOM XD – Electric Stepless Capacity Control System (in person)

Hands-on experience

- 1½ days practical theory
- ½ day hands-on training

Operational

- Yearly scheduled
- Classroom sessions and practice (offline)

Operators and maintenance teams

- Qualification path (continuous education)
- Practical knowledge

XperLube – Digital Commonrail Lubrication System (in person)

Hands-on experience

- 1½ days practical theory
- ½ day hands-on training

Operational

- Yearly scheduled
- Classroom sessions and practice (offline)

Operators and maintenance manager

- Qualification path (continuous education)
- Practical knowledge

eHydroCOM HD – Electric Stepless Capacity Control System (in person)

Hands-on experience

- 1½ days practical theory
- ½ day hands-on training

Operational

- Yearly scheduled
- Classroom sessions and practice (offline)

Operators and maintenance manager

- Qualification path (continuous education)
- Practical knowledge

Choose the training module which suits you best

Training catalog – our “Menu” for you

- HOERBIGER offers 24 + 1 different modules for your specific needs
- Each module takes 1.5 hours
- Training modules in online meetings (customized schedule - min. 5 people per webinar)
- Costs per live webinar (register and pay via credit card directly on [link](#))
- Deliverables: Theoretical presentation
- Lectures given in English (German, Italian, Spanish and Portuguese on request for large groups)



Menu

Online training catalog

Module	Name Order no.	Description	Level
1	Introduction to reciprocating compressors Order no. D10715	Terms and definitions, applications	Introductory level
2	Working principle of reciprocating compressors Order no. D10716	Crank mechanics and compression cycle	Introductory level
3	Introduction to compressor components Order no. D10717	Description of major components	Introductory level
4	Basics of compressor valves Order no. D10718	Design and working principles	Introductory level
5	Basics of compressor packings Order no. D10719	Design and working principles	Introductory level
6	Compressor piston basics Order no. D10720	Design and working principles	Introductory level
7	Basics of cylinder rings Order no. D10721	Design and working principles	Introductory level
8	Basic thermodynamics Order no. D10722	Thermodynamic principles, capacity, temperature, brake horse power	Advanced level
9	Applied thermodynamics Order no. D10723	Multistage compression, gas composition, capacity control, blow-by	Advanced level
10	Compressor mechanics Order no. D10724	Rod loads, unbalanced forces, torsional vibrations	Introductory level
11	Capacity control systems Order no. D10725	Stepless/stepwise and finger/plug unloaders	Advanced level
12	Cylinder lubrication systems Order no. D10726	Divider block, pump to point, non-lube	Advanced level

Module	Name Order no.	Description	Level
13	nearZero-emissions RECIP's configurations Order no. D10727	Purge systems, vent arrangements	Advanced level
14	Compressor monitoring systems and diagnostics Order no. D10728	Online systems, snapshot monitoring	Advanced level
15	Capital parts Order no. D10729	X-head, crank shaft, distance pieces aso.	Advanced level
16	Auxiliary equipment Order no. D10730	Frame lube system, coolers, pulsation bottles, separators	Advanced level
17	API 618 and NACE Order no. D10731	Compressor data sheet, NACE specification	Expert level
18	Compressor reliability Order no. D10732	MTBF, MTBR, reliability improvements	Expert level
19	Compressor troubleshooting and root cause analysis (RCA) Order no. D10733	Temperatures, knocks, emissions	Expert level
20	Compressor valve troubleshooting Order no. D10734	Typical failure patterns	Expert level
21	Rings and packings troubleshooting Order no. D10735	Typical failure patterns and how to avoid them	Expert level
22	Compressor operation Order no. D10736	Periodic checks, start-stop procedures, alarms and shut-down	Expert level
23	Compressor valve and packing maintenance Order no. D10737	Onboarding, critical parameters	Expert level
24	Capital parts maintenance Order no. D10738	Onboarding, critical parameters	Expert level

Our quarterly offered free of charge live webinar!

25	Emissions 101	A discussion about the new global challenge	All levels
26	RECIP Performance 101	A discussion about the possible to improve your reciprocating compressor performances	All levels

Participate on our personal training

Knowledge Sessions

- HOERBIGER offers 4 different sessions from introductory to expert level and for your specific needs
- Each session lasts for 2 days covering 4 modules per day
- Training sessions in person in our global training locations or in-house at your company-site (face-to-face min. 4 persons)
- Costs per session including training material, coffee breaks and lunch, excluding travel and accommodation
- Deliverables: Theoretical presentation and training material plus attendees certificate
- Training language: English

When attending all Knowledge Session relevant webinars, you can reach the corresponding qualification level and get the attendee certificate as well. Contact us for more information.



When participating in one of our Knowledge Sessions you have the possibility to book our quarterly offered free of charge “Emissions 101” webinar in advance!



Session 1 Getting to know

Target group
All the technical professional groups that are looking for a growth path



Upon completion of this course, you will have the know-how about different types of compressors used in process application and the understanding of the basic theory of reciprocating compressor design. Further you will understand the rod load calculation as well as the effect of rod load reversal.

Order No. D10739

Topic	Duration	Modules from the "Menu" (p. 8)
Recips basic: Compression theory introduction and working principles	1 day	1 Introduction to reciprocating compressors
		3 Introduction to compressor components
		2 Working principles of reciprocation compressors
Compressor components fundamentals	1 day	10 Compressor mechanics
		4 Basics of compressor valves
		5 Basics of compressor packings
		6 Compressor piston basics
		7 Basics of cylinder rings

Introductory level

Session 2 System knowledge

Target group
Professionals that have a solid sound recip background and are looking to gain a system view



Upon completion of this course you will be capable to perform basic calculations for capacity, power, temperature etc. and understand performance curves (PV diagram, PT diagram). Further you can identify and describe the function of key components of reciprocating compressors and understand how the compressor flow is controlled by different flow control mechanisms. You can distinguish between different types of cylinder and packing lubrication systems. Finally, you will be capable to describe the function and operation of auxiliary equipment like coolers, pulsation dampeners and separators.

Order No. D10740

Topic	Duration	Modules from the "Menu" (p. 8 and 9)
Auxiliary systems	1 day	11 Capacity control systems
		12 Cylinder lubrication systems
		13 nearZero-emissions RECIP's configurations
		16 Auxiliary equipment
RECIPs calculation basics	1 day	15 Capital parts
		14 Compressor monitoring systems and diagnostics
		8 Basic thermodynamics
		9 Applied thermodynamics

Advanced level

Session 3 Solving issues

Target group

- Operators
- Maintenance managers
- Rotating equipment engineers



Upon completion of this course you will be capable to understand how to undertake maintenance procedure and to maintain, as well as replace, performance defining components like valves, packings, pistons and rider rings etc.. Further, you are able to identify problems in reciprocating compressors and gather relevant and discard non-relevant information. In addition, you can evaluate and analyze the problem symptoms and information to arrive at the root cause of a problem as well as define propose solutions.

Order No. D10741

Topic	Duration	Modules from the "Menu" (p. 9)
Compressor maintenance and reliability	1 day	18 Compressor reliability
		24 Capital parts maintenance
		23 Compressor valve and packing maintenance
Compressor troubleshooting	1 day	17 API 618 and NACE
		19 Compressor troubleshooting and root cause analysis (RCA)
		20 Compressor valve troubleshooting
		21 Rings and packings troubleshooting
		22 Compressor operation

Expert level

Session 4 Understanding the products

Target group

- Mechanics
- Operators
- Engineers
- And every professional figure involved with RECIP's performance components.



Upon completion of this course, you will have the know-how for the performance defining components of reciprocating compressors. Furthermore, you will be capable to identify problems in each product of the compressor and can evaluate and analyze the root cause or the source in order to define a proper solution.

Order No. D10892

Topic	Duration	Modules from the "Menu" (p. 9)
Design, Working Principles & Part's Configuration	1 day	4 Basics of compressor valves
		5 Basics of compressor packings
		7 Basics of cylinder rings
Auxiliary systems & Component's Troubleshooting	1 day	11 Capacity control systems
		12 Cylinder lubrication systems
		20 Compressor valve troubleshooting
		21 Rings and packaging troubleshooting

All levels

Overhaul School

Target group

- Operators
- Maintenance managers
- Rotating equipment engineers

Deliverables	Title	Description
Day 1		
Practical Theory	a. Basic Thermodynamics	Thermodynamic principles , cylinder assembly & displacement, volumetric efficiency, compression principles
	b. Valves Introduction	Valves types, operating principles, indicated P-V diagram, valve characteristics & losses
	c. R&P Training	Materials, Cylinder rings, Packing & Oil Scrapers - Maintaining correct records during shutdowns
	d. Compressor & Parts Revamps	Examples of performance studies, possible upgrades & revamping of components
Practical Theory	e. Machinery Oil Analysis	Oil samples, Composition, Characteristics, Analysis & Contamination
	f. Piston Rods	Design Features, Working Principles, Measurements & Reconditioning
	g. Piston Design	Design Types, Piston Failure, Manufacturing Methods, Rod Mounting, Measurements & Reconditioning
	h. Bearing Failure	Failure Types & Main Indicators
Day 2		
Practical Theory	i. Bearing Replacement Criteria	Practical Rules to Assess the re-usability of the Bearing
	j. Bolting & Bolt Torques	Design Features, Types & Tools
	k. Coupling Alignment	Practical Rules & Measurements
	l. Control System	Stepless, stepwise, finger/plug unloaders
Hands-on	SECTION A	Site Preparation & Disassembly
Day 3		
Hands-on	SECTION B	Pistons, Cylinders, Intermediate Running Gear
Hands-on	SECTION C	Cylinder Valves, Unloader System
Day 4		
Hands-on	SECTION D	Crankcase Running Gear& Lubrication System
Practical Theory	Measurements sheet	Discussion

Combine theory and practice

Overhaul School

- HOERBIGER offers practical basic recip's knowledge and hands-on experience on a training compressor
- The school takes 4 days with 12 modules in classroom and 4 hands-on training sessions
- Overhaul school in person (face-to-face min. 4 and max. 8 persons) in our global training locations or in-house at your company-site
- Costs including training material, coffee breaks and lunch, excluding travel and accommodation
- Deliverables: Theoretical presentation, practical sessions and training material plus attendees certificate
- Training Language: English

Order No. D10742

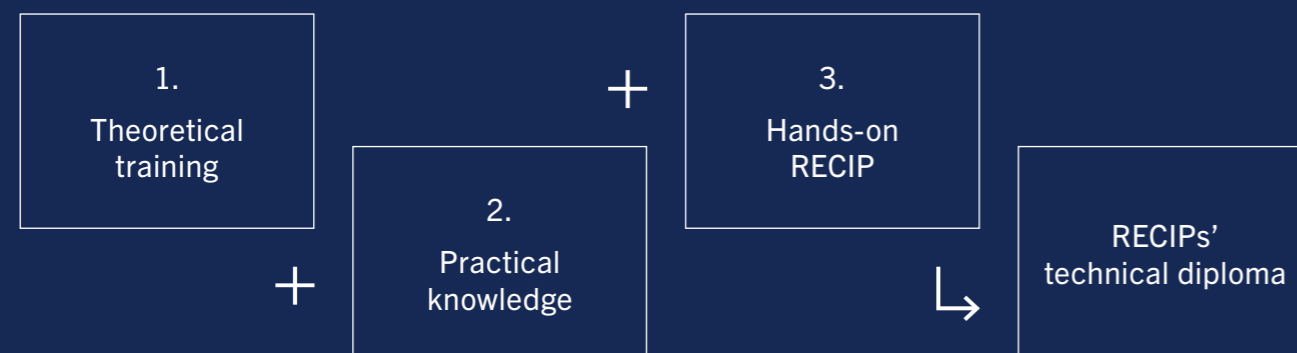


Training Academy

Book a full knowledge package

- HOERBIGER offers practical basic recip knowledge and hands-on experience on a training compressor
- 6 days theory (Knowledge Sessions) and 2 days practical theory plus 2 days hands-on training (Overhaul School) = 10 days divided in 2 weeks
- Training Academy in person at our global training locations (face-to-face max. 8 persons)
- Costs including training material, coffee breaks and lunch, excluding travel and accommodation
- Deliverables: Theoretical presentation, practical sessions and training material plus technical diploma
- Training Language: English

Order No. D10743



Target group

- New employees in your company
- Engineers who want to upskill
- Rotating equipment engineers



Controls and Lubrication Products

Product training

- HOERBIGER offers Hands-On training on different products
- Each session last for two days covering one product
- Training sessions in person in Vienna (large groups customized offering at site)
- Costs per session including training material, coffee breaks and lunch, excluding travel and accommodation
- Deliverables: Practical sessions and training material plus attendees certificate
- Training Language: English



Combination between different product training and knowledge sessions available!

Target group

- Operators
- Maintenance
- Rotating Equipment Engineers

Deliverables	Title	Description
Day 1		
Practical	a. Basic Compressor Knowledge	Working principles & Design Characteristics
Theory	b. Basic Product Knowledge	Working principles & Design Characteristics
Day 2		
Practical	c. Advanced Product Knowledge	Common Failures & Troubleshooting Principle
Theory	d. Hands-On	Assembly, Disassembly and plug-in tests



Training calendar for 2025

Overview about dates and our training location

Webinar: Training menu

- Online webinars with technical expert trainer
- Live webinar times: 9:00 a.m. CET/ CEST (APAC)
3:00 p.m. CET/ CEST (NAM)

In person: Theory and practice

- Interactive Knowledge Sessions (online or in person)
- Practical hands-on training, distributed at HOERBIGER training centers around the globe
- Become an expert in our Training Academy: The right training for your talents worldwide
- All training sessions and material in English language



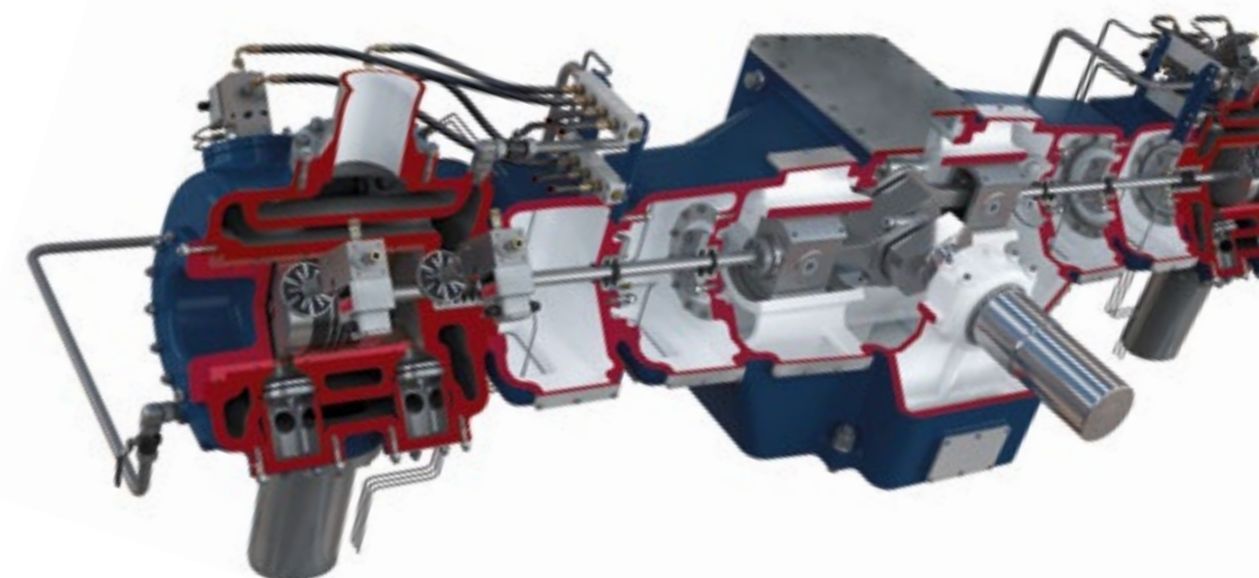
(German, Italian, Spanish and Portuguese on request for large groups)

Name | Order no. Date Location

Training “Menu”

1	Introduction to reciprocating compressors Order no. D10715	Jan. 15	2025
2	Working principle of reciprocating compressors Order no. D10716	Feb. 12	2025
3	Introduction to compressor components Order no. D10717	Jan. 22	2025
4	Basics of compressor valves Order no. D10718	Mar. 05	2025
5	Basics of compressor packings Order no. D10719	Mar. 26	2025
6	Compressor piston basics Order no. D10720	Apr. 02	2025
7	Basics of cylinder rings Order no. D10721	Apr. 30	2025
8	Basic thermodynamics Order no. D10722	Jul. 16	2025
9	Applied thermodynamics Order no. D10723	Jul. 23	2025
10	Compressor mechanics Order no. D10724	Feb. 19	2025
11	Capacity control systems Order no. D10725	May 07	2025
12	Cylinder lubrication systems Order no. D10726	May 14	2025
13	nearZero-emissions RECIP's configurations Order no. D10727	May 21	2025
14	Compressor monitoring systems and diagnostics Order no. D10728	Jul. 09	2025
15	Capital parts Order no. D10729	Jun. 25	2025
16	Auxiliary equipment Order no. D10730	Jun. 11	2025
17	API 618 and NACE Order no. D10731	Oct. 22	2025
18	Compressor reliability Order no. D10732	Aug. 06	2025
19	Compressor troubleshooting and root cause analysis (RCA) Order no. D10733	Nov. 12	2025
20	Compressor valve troubleshooting Order no. D10734	Nov. 19	2025
21	Rings and packings troubleshooting Order no. D10735	Dec. 03	2025
22	Compressor operation Order no. D10736	Dec. 10	2025
23	Compressor valve and packing maintenance Order no. D10737	Oct. 01	2025
24	Capital parts maintenance Order no. D10738	Sep. 10	2025
25	Emissions 101	Every quarter	
26	RECIP Performance 101 (contact your sales representative or reach us)	Every quarter	

Online
webinar



Name | Order no. Date Location

Knowledge Session

Name Order no.	Date	Location
Session 1 - Getting to know Order no. D10739	Jan. 05-06 Jul. 06-07 2025	Jubail
	Jan. 27-28 Sep. 15-16 2025	La Porte *
	Mar. 17-18 Aug. 04-05 2025	Singapore
	Apr. 28-29 Oct. 27-28 2025	Vienna
Session 2 - System knowledge Order no. D10740	Jan. 20-21 Jul. 28-29 2025	Jubail
	Feb. 05-06 Oct. 01-02 2025	La Porte *
	Apr. 08-09 Sep. 23-24 2025	Singapore
	May 06-07 Nov. 18-19 2025	Vienna
Session 3 - Solving issues Order no. D10741	Feb. 11-12 Aug. 19-20 2025	Jubail
	Mar. 26-27 Oct. 22-23 2025	La Porte *
	May 21-22 Oct. 08-09 2025	Singapore
	Jun. 04-05 Nov. 26-27 2025	Vienna
Session 4 - Understanding the products Order no. D10892	Feb. 26-27 Sep. 03-04 2025	Jubail
	Apr. 03-04 Nov. 20-21 2025	La Porte *
	Jun. 12-13 Dec. 04-05 2025	Vienna
One Week RECIP knowledge training Order no. D10744	Jun. 26-27 Nov. 06-07 2025	Singapore
	Mar. 10-14 Nov. 10-14 2025	Australia

Name | Order no. Date Location

Overhaul School

Name Order no.	Date	Location
Theory and practice Order no. D10742	Jan. 14-17 Jul. 22-25 2025	La Porte *
	Feb. 04-07 Jul. 01-04 Dec. 02-05 2025	Singapore
	Mar. 04-07 Oct. 07-10 2025	Vienna
	Jun. 23-26 Dec. 15-18 2025	Jubail



You can find the current calendar on our website.



Please bring your own overalls for the training, we provide safety shoes, gloves and safety goggles.

Name | Order no. Date Location

Training Academy

Name Order no.	Date	Location
Theoretical training, practical knowledge, hands-on RECIP Order no. D10743	Jan. 06-19 Jul. 14-27 2025	La Porte *
	Feb. 24 - Mar. 07 Sep. 29 - Oct. 10 2025	Vienna
	Jun. 15-28 Dec. 07-20 2025	Jubail

Product Training

HydroCOM Order no. D10888	Mar. 10-11	Sep. 08-09	Sep. 16-17 2025	Vienna
XperLUBE Order no. D10891		Mar. 12-13	Sep. 10-11 2025	Vienna
eHydroCOM HD Order no. D10890		Mar. 24-25	Oct. 14-15 2025	Vienna
eHydroCOM XD Order no. D10889		Apr. 09-10	Nov. 04-05 2025	Vienna

* Spanish Edition available on request

You want to book a training? Contact us or fill out the form

First name *

Last name *

Email *

Company *

Country *

Message *

* **GDPR Agreement**

I consent to the transfer of this contact form and the storage of my personal information so that HOERBIGER can respond to my request.

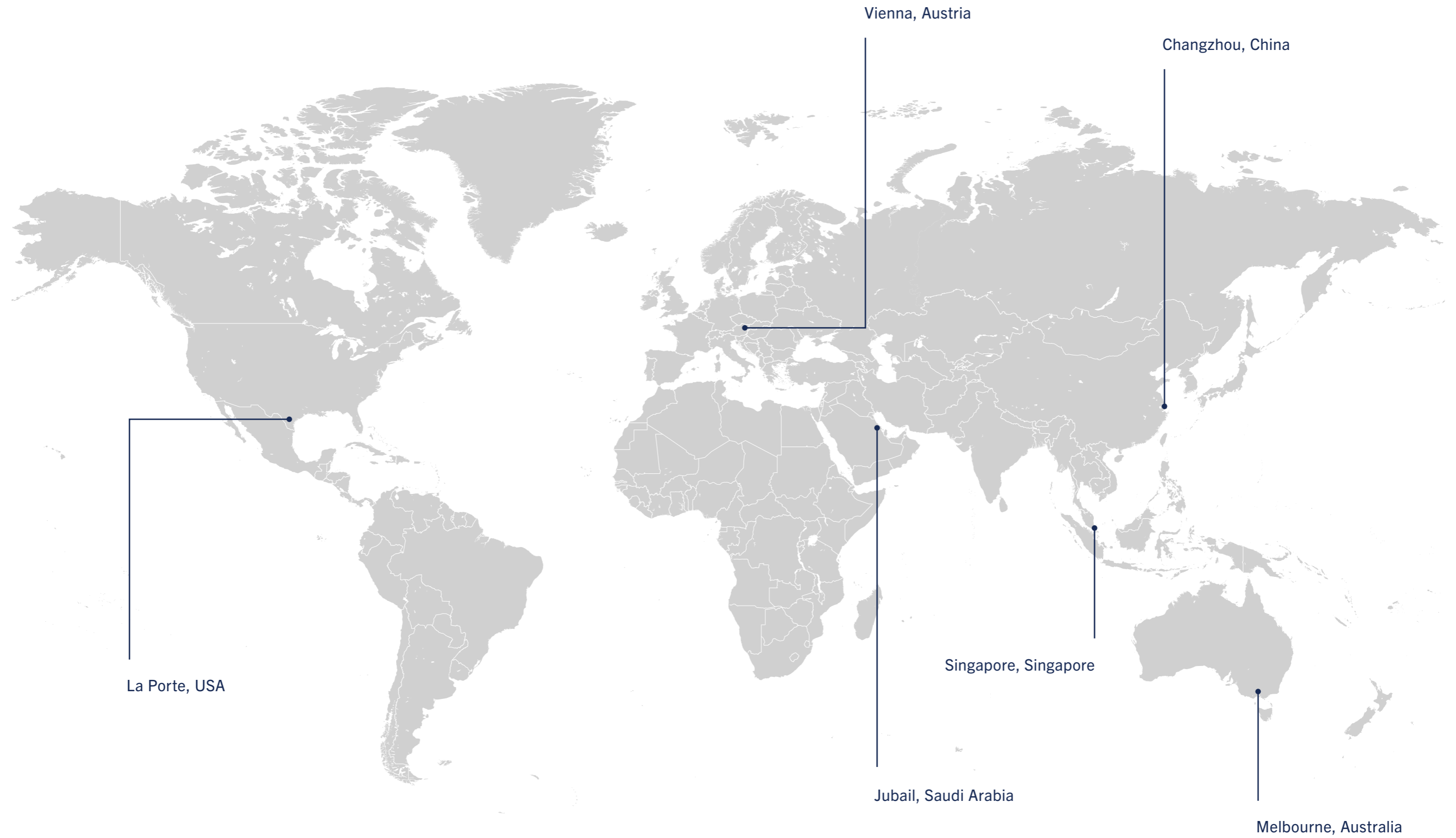
See our privacy policy (<https://www.hoerbiger.com/dataprotection>) to learn more about how we use data.



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Our global training locations for you





Learn more by visiting
www.hoerbiger.com/training
today!



Contact us via email
recip.customertraining@hoerbiger.com

Locally close to the customers – globally successful: HOERBIGER is active worldwide in 43 countries on all continents. 6,174 employees at 133 locations – including 30 production plants – deliver reliable solutions for better performance, increased safety, and fewer emissions. In 2023, they generated sales of 1.416 billion euros. For renowned customers from the energy sector, the process industry, the automotive industry, the mechanical engineering industry, safety technology, and the electronics industry, performance-determining products and services from HOERBIGER make the difference. With innovations for decarbonization and energy transition, HOERBIGER is already enabling change today for a better tomorrow. As majority shareholder, the HOERBIGER Foundation preserves the 129-year-old entrepreneurial heritage and guarantees stability, independence, and a future-oriented strategy.

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