

COMPRESSOR TECHNOLOGY TRAINING

TRAINING INFORMATION FOR HYPER

Training Location: Winterthur, Switzerland

Training is essential for the safe operation and maintenance of compressors. In order to minimize downtime and maximize profit, these complicated machines need the attention of competent, professionally trained people.

Here at Burckhardt's Education Campus, we provide training with specialized trainers and unique programs that consist of theoretical and hands-on courses. We offer a large modern training center in Winterthur with full size compressors that prepare your staff for the real experience. We believe classroom sessions combined with the **hands on** training experience is the key to fully understanding the function of a compressor.

Burckhardt Compressor Technology Training prepares your staff in every aspect of compressor handling; Compression theory, preventive maintenance, reliable operation, maximizing mechanical availability and maintenance planning are just some of the key topics covered that will enhance your compressors life cycle.



Options for operational and maintenance training

- 3 days (theory & hands on)
- 5 days (theory & hands on)
- Optional Prognost training. Theory & computer hands on. Min. 5 participants.

Target Group		<ul style="list-style-type: none"> • Maintenance supervisors • Operator and maintenance personnel • Service engineers • Process managers, control specialists
Participants		Minimum 3 / Maximum 8
Training Days	Hyper	3-day or 5-day training
Training Options	Prognost	2-day training in addition to the Hyper training
Languages		English, German
Training Dates		To be agreed
Tailor-made training		Customized training courses can be developed to suit your exact requirements. Please contact the Training Center for further Information

Training is not limited to Burckhardt compressors. Training on Non-Burckhardt compressors can also be provided.

Other available trainings

Process gas compressor training

General reciprocating compressor training

Laby® compressor training

Laby®-GI compressor training

HYPER

3-Day training program

1. INTRODUCTION
2. COMPRESSOR DESIGN BASIS
 - Introduction to Hyper Compressors
 - Introduction and current LDPE projects
3. HIGH PRESSURE PARTS
 - In depth understanding of high-pressure parts
4. LUBRICATION SYSTEMS
 - Details of cylinder lubricating groups
 - Cylinder lubrication parts
 - Specifications of cylinder oil
5. CRANK GEAR
 - Focus on: Distance piece, connecting rod, crosshead frame, auxiliary guide elastic rod, plunger coupling, oil seals, bearings and crankshaft
 - Foundation aspects
 - Functional principle
6. INSTRUCTION MANUAL
 - Understanding how to use the instruction manual correctly for operational and maintenance purposes. Group exercises will be done with laptops
7. GENERAL MAINTENANCE TOPICS (HANDS ON THE COMPRESSORS)
 - Complete cylinder overhaul using special tools
 - Dismantling/Assembling of components on the cylinder: cylinder head, central valve, plunger, HP packing cartridge, low pressure packing
 - Adjustments during cylinder assembly
8. FINAL DISCUSSION AND Q&A
9. TEST

HYPER

5-Day training program

1. INTRODUCTION
2. COMPRESSOR DESIGN BASIS
 - Introduction to Hyper compressors
 - Introduction and current LDPE projects
3. HIGH PRESSURE PARTS
4. LUBRICATION SYSTEMS
 - Details of cylinder lubricating groups
 - Cylinder lubrication pumps
 - Specifications of cylinder oil
5. CRANKGEAR
 - Focus on: Distance piece, connecting rod, crosshead frame, auxiliary guide elastic rod, plunger coupling, oil seals, bearings and crankshaft
 - Foundation aspects
 - Functional principle
6. INSTRUCTION MANUAL
7. MAINTENANCE STRATEGY
 - Maintenance – when and why?
 - Types of maintenance
 - Guidelines for maintenance
 - Spare parts strategy
8. GENERAL MAINTENANCE TOPICS (HANDS ON TRAINING)
 - Complete cylinder overhaul using special tools
 - Dismantling/Assembling of components on the cylinder: cylinder head, central valve, plunger HP packing cartridge, low pressure packing
 - Adjustments during cylinder assembly
 - Evaluation/Measuring of dismantled high pressure parts
 - Maintenance/adjustments on cylinder lubrication system and HP pumps (C1 & CH1)
9. COMISSIONING
 - Special activities for pre - commissioning of the equipment
 - Startup procedure
 - Do's and don'ts during operation
10. TROUBLE SHOOTING
 - Discuss possible problems
 - Behavior emergency situations
11. CASE STUDIES
12. FINAL DISCUSSION AND Q&A
13. TEST

PROGNOST SYSTEM

2-Day optional training program (Theory and computer hands on)

1. INTRODUCTION

2. START UP

- Start of VISU
- Systems connection
- Windows and desktop
- Machine status
- Warning and alarm colors
- DSC data

3. ONLINE DATA

- Basic knowledge
- Online diagram
- Scaling
- Using online compositions
- Daily snapshot

4. TREND DATA

- Basic knowledge
- Trend diagram
- Scaling
- Using trend compositions
- 3D trend effects

5. RINGBUFFER

- Basic knowledge
- View data
- Using data trend compositions
- Triggering user ring buffer
- Specific ring buffer analysis

6. LOGBOOK

- Logbook
- One Click-fast check

7. PRESENTING OF SIGNALS ANALYSIS

- Basic knowledge
- Type: Vibration (acceleration and velocity)
- Type: Dynamic pressure (time based and pV)
- Type: Displacement (Proximity – rod/plunger position)
- Machine depending analysis (power, hours, losses, rotation and torque)

8. ADDITIONAL TOPICS

- Signal plausibility
- Operations conditions
- Warning thresholds
- Safety limits
- VISU options

GENERAL INFORMATION

Travel to Switzerland

Participants arriving at Zürich Airport are kindly requested to travel by train to Winterthur.

The railway station is located in the airport building itself.

Direct trains to Winterthur are available every 15 minutes. Travelling time is approx. 15 minutes.

Recommended hotels in Winterthur

<u>Hotel Banana City</u> www.bananacity.ch/en Schaffhauserstrasse 8 CH - 8400 Winterthur Tel. +41 52 268 16 16 E-Mail: info@bananacity.ch	<u>Hotel Wartmann</u> www.wartmann.ch/en Am Bahnhof Winterthur Rudolfstrasse 15 8400 Winterthur Tel. +41 52 260 07 07 Fax +41 52 213 30 97 E-Mail: wartmann@wartmann.ch
<u>Park Hotel Winterthur</u> phwin.ch/en Stadthausstrasse 4 CH-8400 Winterthur Tel +41 52 265 02 65 Fax +41 52 265 02 75 E-Mail:welcome@phwin.ch	<u>Plaza Hotel Winterthur</u> www.plazahotel.ch Technikumstrasse 12, 8400 Winterthur Tel +41 52 212 15 15 E-Mail: info@plazahotel.ch

For more information

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