

# COMPRESSOR TECHNOLOGY TRAINING

## TRAINING INFORMATION PROCESS GAS COMPRESSOR

*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 + 2 days Prognost training. Theory & computer hands on. Min. 5 participants.

<b>Target Group</b>		<ul style="list-style-type: none"> <li>• Maintenance supervisors</li> <li>• Operator and maintenance personnel</li> <li>• Service engineers</li> <li>• Process managers, control specialists</li> </ul>
<b>Participants</b>		Minimum 3 / Maximum 8
<b>Training Days</b>	Process Gas	3-day or 5-day training
<b>Training Options</b>	Prognost	2-day training in addition to the Process Gas training
<b>Languages</b>		English, German
<b>Training Dates</b>		To be agreed
<b>Tailor-made training</b>		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**

Hyper compressor training

General reciprocating compressor training

Laby® compressor training

Laby®-GI compressor training

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## Process Gas

3-Day training program (Theory & hands on)

1. INTRODUCTION
2. MARKETS AND APPLICATION
  - Introduction to Process Gas compressors
  - Understanding Process Gas compressors applications
3. COMPRESSOR DETAILS & DESIGN
  - In depth understanding of the component functions of your compressor
  - Designation of the Process Gas compressors
  - Compressor components: crank gear, distance piece
  - Superbolt and hydraulic connections
4. PROCESS GAS COMPRESSOR CYLINDER
  - Design aspect of cylinders
  - Cylinder piston & piston rod, piston rod packing, valves
5. INSTRUCTION MANUAL
6. GENERAL MAINTENANCE TOPICES (HANDS ON TRAINING)
  - Disassembling piston/piston rod
  - Disassembling packing and oil scraper
  - Disassembling cross head
  - Rod drop adjustment, piston ring installation
  - Measuring clearances
7. TROUBLE SHOOTING
  - Discuss possible problems
  - Learning what to do in case of emergency situations
8. CASE STUDIES
9. DISCUSSION AND Q&A
10. TEST

## Process Gas

5-Day training program (Theory & hands on)

1. INTRODUCTION
2. MARKETS AND APPLICATION
  - Introduction to Process Gas compressors
  - Understanding Process Gas compressors applications
3. COMPRESSOR DETAILS & DESIGN
  - In depth understanding of the component functions of your compressor
  - Designation of the Process Gas compressors
  - Compressor components: crank gear, distance piece
  - Superbolt and hydraulic connections
4. PROCESS GAS COMPRESSOR CYLINDER
  - Design aspect of cylinders
  - Cylinder piston & piston rod, piston rod packing, valves
5. CAPACITY CONTROL AND MONITORING SYSTEM
  - Methods to control compressor capacity
  - Suction valve unloaders, bypass control, monitoring diagnostics
6. PLANT DESIGN
  - Plant structure, skid Installations, foundation control, pipe installations.
7. INSTRUCTION MANUAL
8. GENERAL MAINTENANCE TOPICES (HANDS ON TRAINING)
  - Disassembling piston/piston rod
  - Disassembling packing and oil scraper
  - Disassembling cross head
  - Rod drop adjustment, piston ring installation
  - Measuring clearances
9. VALVES THEORY
  - Burckhardt valve portfolio
  - Understanding the design features and optimal application of the Burckhardt valves
  - Get an introduction to the function principles of valves and sizing
  - Valve failure and prevention
  - Visiting valve production in the workshop

11. TROUBLE SHOOTING

- Discuss possible problems
- Learning what to do in case of emergency situations

12. CASE STUDIES

13. DISCUSSION AND Q&A

14. 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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