

ADVANCED TRAINING IN PUMP AND TURBINE SYSTEMS TECHNOLOGY

TRAINING CATALOGUE 2025 / 2026



more than
CRYOGENICS



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INTRODUCTION

INNOVATIVE SOLUTIONS: DEVELOPING SKILLS FOR FUTURE SUCCESS

Cryostar not only supplies advanced cryogenic equipment but also offers various services to help clients. Our training programmes for operators and maintenance staff are thriving. By investing in these programmes, businesses can equip their teams with the latest industry techniques and tools.

TRAINING PREREQUISITES FOR CRYOSTAR COURSES

Theoretical courses can be combined with hands-on sessions based on equipment availability at the customer's site or Cryostar's factory. Trainees must be proficient in English or have a translator present, and they should possess a background in mechanical engineering with skills in maintaining industrial equipment.



COURSE OUTLINE 1

CENTRIFUGAL PUMPS - MCP, VP, MX

PROGRAMME DURATION: AN AVERAGE OF 1 DAY THEORY, 3 DAYS WORKSHOP FOR EACH TYPE OF PUMP.

HANDS-ON CONTENT

- Review of the maintenance schedule
- Overview of the checklist and documents used for the dismantling and the re-assembly
- Hands-on experience:
 - Disconnecting cold end from the crank drive
 - Checking of the motor
 - Clearance checks
 - Complete dismantling, inspection of the cold end...
 - Cleaning, degreasing,
 - Complete re-assembly, coupling,
 - Complete mechanical checks

OBJECTIVES

To gain both theoretical and practical understanding of:

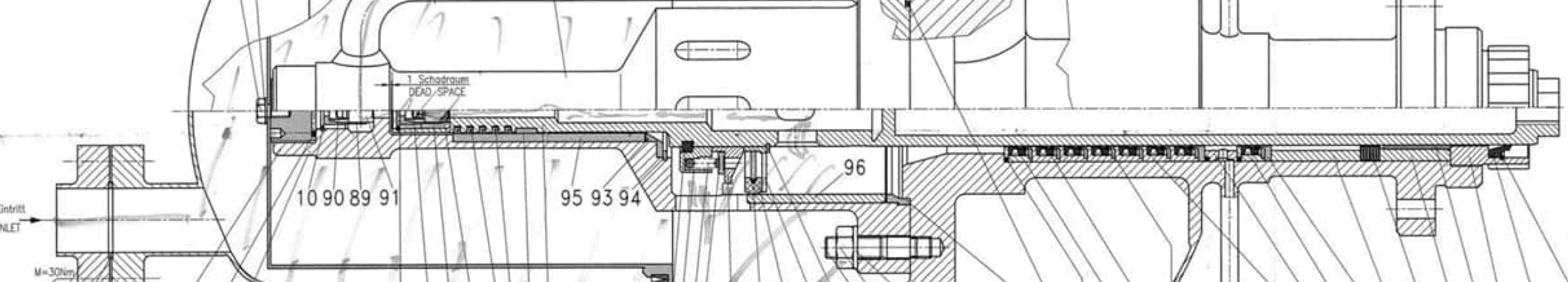
- Centrifugal pumps
- Troubleshooting methods
- Maintenance procedures
- Hands-on application

THEORY CONTENT

- Explanation of the inner workings of a centrifugal pump, its characteristics and its mechanical elements
- Breakdown of the P&ID, operating curves, and associated hydraulic principles.
- Instructions for maintenance & service including common issues and solutions related to wear and tear, seal replacements, and bearing inspections.
- Safety protocols and best practices and monitoring systems, highlighting their impact on maintenance strategies

LOCATION

- Cryostar France
- Customer's facility
- Our Business Centres in China, Brazil, the United Kingdom, the United States & Singapore



COURSE OUTLINE 2

RECIPROCATING PUMPS - KPL

PROGRAMME DURATION: 1 DAY OF THEORY, 3 DAYS HANDS-ON

HANDS-ON CONTENT

- Review of the maintenance schedule
- Overview of the checklist and documents used for the dismantling and the re-assembly
- Hands-on experience:
 - Disconnecting cold end from the crank drive
 - Checking of the motor
 - Clearance checks
 - Complete dismantling, inspection of the cold end
 - Cleaning, degreasing,
 - Complete re-assembly, coupling,
 - Complete mechanical checks

THEORY CONTENT

- Explanation of the inner workings of a reciprocating pump, its characteristics and its mechanical elements
- Breakdown of the P&ID, operating curves, and associated hydraulic principles.
- Instructions for maintenance & service

OBJECTIVES

- To develop both theoretical knowledge and practical skills in:
- Reciprocating pumps
- Troubleshooting techniques
- Maintenance practices
- Practical application skills

LOCATION

- Cryostar France
- Customer's facility
- Our Business Centres in China, Brazil, the United Kingdom, the United States & Singapore



COURSE OUTLINE 3

TURBINES & COMPRESSORS - TC, LTG, TFC, ECO, TP

PROGRAMME DURATION: AN AVERAGE OF 3 DAYS FOR EACH PIECE OF EQUIPMENT.

HANDS-ON CONTENT

- Review of the maintenance schedule
- Overview of the checklist and documents used for the dismantling and the re-assembly of the plug-in, gear box, casing, nozzle actuator and coupling
- Checking or certifying the calibration of instrumentation
- Techniques for optimising performance and efficiency
- Improved decision-making abilities through comprehensive learning

OBJECTIVES

To acquire the theoretical and practical knowledge regarding:

- Compressors and turbines
- Troubleshooting methods
- Maintenance procedures
- Hands-on application

THEORY CONTENT

- Basic concepts in physics & theoretical principles
- Construction & design
- Oil system
- P&ID and auxiliaries
- Anti-surge system
- Operation & set point list
- Associated systems
- Control panels
- Maintenance
- AMB system explanation (for MTCs)

LOCATION

- Cryostar France
- Customer's facility
- Our Business Centres in China, Brazil, the United Kingdom, the United States & Singapore

MAGNETIC TURBINE COMPRESSOR - MTC

PROGRAMME DURATION: 2 DAYS OF THEORY, 1 DAY HANDS-ON

HANDS-ON CONTENT

- Review of the maintenance schedule
- Overview of the checklist and documents used for the dismantling and the reassembly of the plug-in, gear box, casing, nozzle actuator and coupling
- Checking or certifying the calibration of instrumentation
- Group discussions to enhance problem-solving skills and knowledge sharing

OBJECTIVES

To gain both theoretical and practical understanding in the following areas:

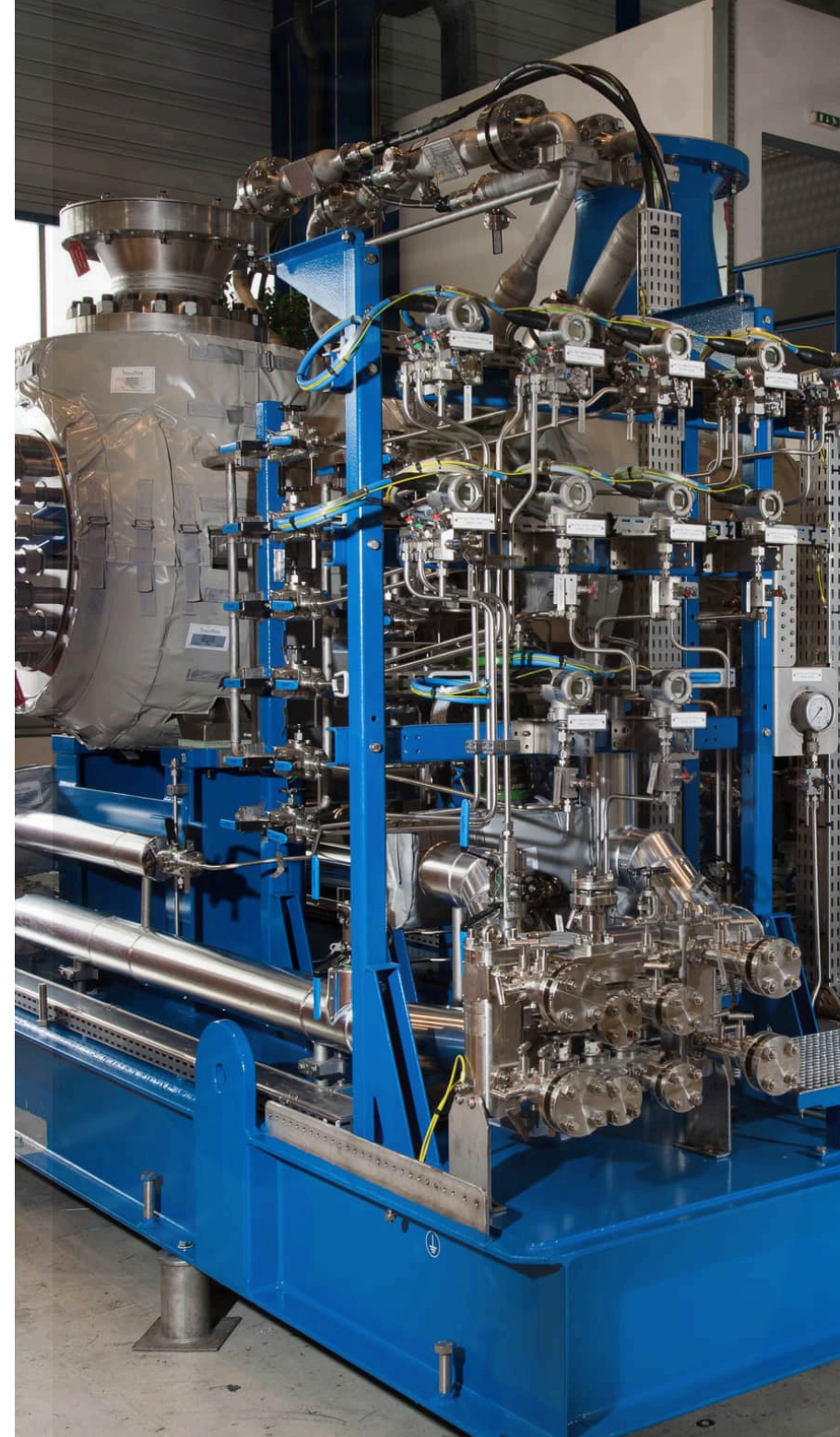
- Compressors and turbines
- Troubleshooting techniques
- Maintenance practices
- Practical application through hands-on experience

THEORY CONTENT

- Basic concepts in physics & theoretical principles
- Construction & design
- Oil system
- P&ID and auxiliaries
- Anti-surge system
- Operation
- Set point list
- Associated systems
- Control panels
- Maintenance
- AMB system explanation (for MTCs)

LOCATION

- Cryostar France
- Customer's facility
- Our Business Centres in China, Brazil, the United Kingdom, the United States, Singapore



WHAT MAKES CRYOSTAR'S TRAINING PROGRAMMES UNIQUE AND EFFECTIVE?

Innovative Equipment

- Cryostar is committed to continuous innovation, ensuring that its products and services remain at the forefront of technology.

Decades of Experience

- Our instructors are experienced engineers with an average of 15 years in hands-on workshops, on-site operations, and design, specialising in areas such as manufacturing, testing, operation, and maintenance.

Certification and Recognition

- Certificates of completion may be awarded, showcasing the individual's competency in cryogenic technologies.





ACCELERATING EFFICIENCY: ADVANCED PUMP TRAINING AT CRYOSTAR'S CENTRE

Cryostar's Training Centre provides specialised courses centered around various types of pumps, delivering comprehensive knowledge along with practical experience. Participants will explore the design, operation, and maintenance of cryogenic pumps, gaining valuable insights to improve their expertise.

With professional guidance and a supportive learning atmosphere, our training prepares operators and maintenance personnel to tackle the challenges of cryogenic systems both efficiently and effectively. To enrol in a course, please contact our training coordinator or visit our website for more information.

To receive our pricing details, simply reach out to us via email, and we'll be happy to assist you.



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