LIFECYCLE SERVICES

COMPETENT AND RELIABLE SOLUTIONS
With HORA’s new lifecycle routing concept (LcR), you will receive optimum and coordinated support in every phase of the control valve lifecycle.
The HORA brand stands both for the longevity and reliability of its products as well as for the quality of the services, which support our valves and actuators in power plants around the globe.

Our objectives are challenging. We want to be the most competent service provider in the segment with our products and services. This is based on our own workforce, in which the expertise of more than 300 engineers, designers and technicians as well as the experience of more than 40 years of market activity is combined.

The excellence of our products and services originate from the knowledge platform of this network. It makes us a reliable and strong partner for planners, constructors and operators of fossil-fuelled and solar thermal power plants.

HORA is medium-sized, independent and family-run – and thus flexible and versatile. One hundred percent of the profits are reinvested in equipment, processes and people. Thus quality, efficiency and innovative force are continuously delivered.

Important elements for this include the 100 percent development scope and vertical manufacturing levels of up to 90 percent. We retain the most important elements for quality assurance and excellence in our own hands. And because our definition of service extends far beyond the boundaries of maintenance and repair, we offer more than conventional service providers: A complete range of excellent consultation, support and assistance over the whole lifecycle of a final control valve.
WE CONSIDER SERVICING EVEN AT THE PRODUCT DESIGN STAGE

At HORA, we consider the service requirements, when the product is still in the design stage: Our control valves are designed from the very outset with service-friendliness in mind. Ease of access to the internal components of the final control elements, ease of replacement of parts subject to wear or expansion possibilities in the installed state are striking examples of this. Here too, it pays to more closely examine our range of services.

RELIABLE MAINTENANCE
PUTTING AND KEEPING IN OPERATION

From commissioning to status monitoring and revision management right up to maintenance of the plant and troubleshooting – our services contribute in keeping your plant operational, minimizing the risks of unplanned standstills and ensuring a smooth and fast supply of spare parts. Commissioning and operation span a wide area in our service portfolio.

QUALIFIED ENGINEERING
PLAN NEW AND OPTIMIZE EXISTING EQUIPMENT

HORA Engineering Services, with their development support and technical consulting in the planning phase, set a course just as in the assistance provided with conversions, modernization and plant optimization. Regardless of the phase where you utilize our Engineering Services: Experienced engineers and FEM/CFD specialists support you, so that you can concentrate on your core business.

ASSOCIATED SERVICES
PRACTICAL TRAINING AND PROFESSIONAL TESTING

Whether new, modernized or renovated: Our associated services assist in ensuring efficient operation of your plant. Our practice-experienced experts can, for example, assume responsibility for the training and further education of your specialist personnel, and train them in the usage and handling of control valves.

Support before the actual plant is in operation is also assured: We support pickling, purging and rinsing processes. During operation, we test your safety relevant control valves on the basis of a standardized process.

CERTIFIED SAFETY
TRUST WE CAN DOCUMENT AND CERTIFY

HORA Services, just like all the processes in our company, are subject to wide-ranging quality management, which checks and ensures compliance to national and international guidelines, statutory and contractual stipulations as well as operational provisions. Quality sets the prerequisite for safety, which we can guarantee to you with certifications and approvals: For safety right down the line.
After successful commissioning, a power plant should operate cost-effectively and safely for years. Today’s maintenance management for the plants pays attention to the technically necessary and economically useful standstill intervals. In order to guarantee this management and at the same time facilitate efficient, unplanned actions with quick response times, we have embedded a rigorous customer focus in our practices.

We contribute with our field service, repair service and spare parts service in keeping your operations running, to minimize the risks of unplanned standstills and to ensure a smooth and fast spare parts supply.
FIELD SERVICE PRESENT ON-SITE: COMMISSIONING, OPERATION AND OPTIMIZATION

Power plant operators are reliant on safe and continuous operation of their systems, whereby control valves play a particularly significant role.

Our field service, operated by our own technicians and recognized partners, assumes responsibility for prefect functioning – starting at commissioning through to ongoing operation and extending right up to optimization and modernization.

RISK MINIMIZATION AT THE START

Experienced technicians and valve specialists are there to support you in the commissioning phase. Our competence contributes both in consultation as well as in hands-on activities on site. They train your employees, focus their attention on questions concerning the consistency between planning and the implemented construction and analyse and remedy any weak points identified: Everything is orientated to a risk-minimized and safe start-up of your plant.

MAINTENANCE BEFORE REPAIR

When your plant is operational, our services assist you in avoiding unplanned standstills. Planned, condition-based maintenance is the motto as we champion maintenance before repair. Using our detailed valve and plant knowledge we manage the intervals and maintenance scheduling, so that everything proceeds as you expect on-site: trouble-free. And should an unexpected breakdown still occur, you will get to know the special performance features of our field service: Speed with repairs and overhauls.

EXACT PLANNING OF SHUTDOWNS

Once the plant has been shut-down as planned, the time window for inspections or modernization is generally very tight. We take this into account with precision planning and around-the-clock presence: Maintenance and inspection work are finely integrated into the overall organisational measures, systematized exchange and replacement of components and shipping of the necessary spare parts. Our technicians will take on your entire range of valves irrespective of the manufacturer and check, dismantle and exchange them as necessary. And should you require a special component beyond the scope of our normal spare parts, our express line in design and production will jump into action: Within the shortest time, the solution to the problem is on hand – irrespective of where the power plant is located.
REPAIR SERVICE

Our central workshop for HORA and non-HORA products takes on all repairs and general overhauls, which cannot be carried out on-site. Our experts examine the damage, perform tests on the material and functions, repair, renovate, optimize and modernize.

We create a comprehensive and extensive offer detailing the planned work and costs before every repair. The final control element concerned will only be overhauled and subject to final inspection, after the customer has agreed. Guaranteeing longevity and high-levels of reliability at the lowest possible operating costs over the entire lifecycle places special demands on the materials used and determines our actions over the entire process chain.

When these components that have been repaired and overhauled are sent on their return journey, they seamlessly add to the high technical requirement fabric of your plant in terms of quality and stability.

We understand valves, because we make valves – conclusions can be drawn on the usage and optimization potential based on damage patterns.
WE SUPPLY SPARE PARTS IN THE ORIGINAL AND IN THE SELF-SERVICE BOX

Providing original spare parts in the same high quality as our products is the guiding principle of our spare parts management. With every spare that we supply, you can be sure that we will be supplying an original, even for the final control elements that you have had operational for a very long time. The parts that we provide are technically state-of-the-art and are delivered with comprehensive warranties.

We undertake a particularly careful examination of a methodical spare parts supply together with you. This is very easily implemented with the self-service box: Everything that is conventionally used is provided in a stable spare parts box, from which you can take the parts when required. When the supply is running low, simply return the box to us and we will refill it once again for your use.

AT THE DESTINATION WORLD-WIDE IN A SHORT TIME

The systematic spare parts logistics ensures that we have sufficient quantities of conventional spare parts in stock. Special individual components are manufactured in reserved manufacturing capacity in a few days or even hours.

Our sophisticated shipping department ensures a quick delivery to the required location.

SPARE PART MANAGEMENT

Our service experts provide comprehensive advice on spare parts and will define a useful requirement in conjunction with you. Thus, all the required parts are available on-site during the commissioning phase, during operation or for planned modifications and can guarantee a quick installation. This provides the required security of operation and the availability of the plant.

With just a single action, you have the spare parts list and sectional drawing for the final control element in the hand.
ENGINEERING:
KNOWLEDGE AND EXPERIENCE AS SERVICE

Doing everything yourself does not pay – especially not when knowledge and experience are available as a service for progressive final control element technology. Professional engineering services from HORA assist you to usefully complement your own resources, to enhance your knowledge and to ensure that you quickly and more cost-effectively achieve your objectives.

Our qualified engineers complement your existing know-how during planning and operation with very specialized knowledge and competences, based on comprehensive understanding of the segment and the technology. We assist in remedying faults caused by material fatigue and ageing, and increasing the efficiency of plants in the planning phase of new plants as well as during modernization, retrofitting and upgrading measures.

FEM/CFD CONSULTING
COMPETENT CONSULTING AND SUPPORT

Trendsetting answers to flow characteristics and physical aspects in the application of control engineering in new, extended or modernized plants are provided by our FEM/CFD consulting.

Our specialists examine the flow characteristics of final control elements and determine the technical flow optimization potential using CFD simulation software. They get to the bottom of performance-relevant flow problems and develop concrete solutions based on years of experience and current application know-how. FEM calculations assist in the preliminary stage in getting an exact overview of the physical product properties, which will be required later in practice. The results are decision-relevant statements and recommendations for the selection and properties of final control valves and their functions.
TECHNICAL CONSULTING
KNOW WHAT IS IMPORTANT

Qualified advice is a service in demand in view of the complexity and the trend to high-temperature applications in power plant engineering. Our technical consulting provides pioneering answers to valve-specific questions – from initial equipment requirement right up to retrofitting. Whether it involves the design of valves, or if certain elements and components are to be exchanged during a retrofit or an upgrade is required after the optimization using state-of-the-art products: Our technical consultants provide knowledge, which is important for performance, cost-effectiveness and efficiency in power plant engineering.
SERVICE WITH FACETS: WE TRAIN, PROTECT, TEST – ALWAYS THERE FOR YOU

Different service requirements result in the lifecycle of our control valves. We provide these associated services that you can avail of should they be required. Our experts train, protect and inspect – and are there for you around the clock.

TRAINING SERVICE

THOSE WHO KNOW MORE HAVE FEWER PROBLEMS

The demands placed on operation and control of complex control technology continues to grow – and thus the required know-how of specialized personnel on-site.

This applies for commissioning, during ongoing operation as well as with optimization and modernization measures. With our training services, we bring your employees up to speed on the usage and handling of our final control valves. Together, we look behind the scenes of construction and control, installation and maintenance. We explore the potential details of possible faults and at the same time demonstrate how to remedy them. Should your company require specific training and further education with regard to valve technology extending beyond on-site training: It pays to contact us in this case also.

SYSTEM PREPARATION

PRESSURE TESTING, PURGING AND RINSING WITH INTEGRATED VALVE PROTECTION

Before your plant is made operational, the piping must be thoroughly cleaned. Weld seams, dirt, scale, rust – the diverse range of possible contamination causes is wide and ranges right up to misplaced or forgotten tools.

Our pickling, purging and rinsing service provides assistance. To ensure that the valves are not subjected to contamination, we replace them during the cleaning process with suitable fittings. Should this not be possible, special inserts protect against dirt: A clean solution. The same applies for safety-relevant pressure testing: Even here our solutions and products support the testing process.

TEST PROCESS

WE TEST SAFETY FINAL CONTROL ELEMENTS TO TÜV AND DIN COMPLIANT STANDARDS

If your safety-relevant valves must satisfy the demands of VdTÜV 1095 or DIN EN 12952-10 (previously TRD 421), we offer you the usage of our inspection service. We professionally inspect, check and document the standard-compliance according to the relative standards.

HOTLINE

WE ARE THERE FOR YOU DAY AND NIGHT

HORA Services knows no geographical and no time zone limitations. We can be contacted and ready to assist day and night on 365 days a year: We are here to listen to your requirements.
HIGH LEVEL SAFETY

Safety has a significant position with regard to the highly sensitive technical safety environment of large plant construction and operation. HORA services as well as the materials, components and products are provided with the significance of this fact in mind. They are part of a wide-ranging quality management system to DIN EN ISO 9001:2000 and targeted to consider national and international guidelines, statutory and contractual regulations as well as operational specifications. Thus, HORA services prepare the ground for reliable safety at high levels.

With the SCC safety management system to which we adhere, it is possible for us to undertake our assignments on site without accidents. Numerous certifications and approvals underline this fact.

Approvals and qualifications

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<th>Description</th>
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<tr>
<td>SCC/VCA 017+018</td>
<td>Safety Certificate Contractors</td>
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<tr>
<td>SCC**</td>
<td>Company certificate</td>
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<td>Safety Certificate Contractors from 2013</td>
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<tr>
<td>DIN EN ISO 9001:2008</td>
<td>Quality management, TÜV CERT, TÜV Nord</td>
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<td>DIN EN ISO 15614-1</td>
<td>Specification and qualification of welding procedures for metallic materials</td>
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<td>DIN EN 287-1</td>
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<td>Welding coordination - Tasks and responsibilities, TÜV Nord</td>
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<td>DIN EN ISO 3834-2</td>
<td>Quality requirements for fusion welding of metallic materials - Part 2: Comprehensive quality requirements, TÜV Nord</td>
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<td>Safety devices for protection against excessive pressure - Part 5: Controlled safety pressure-relief systems</td>
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<td>ISO/DIS 4126-5</td>
<td>163 kB, RW TÜV, Essen</td>
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### Projects Worldwide

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<tr>
<th>Project</th>
<th>Location</th>
<th>Type</th>
<th>Capacity</th>
<th>Steam Parameters</th>
<th>Commissioned</th>
<th>Scope of Delivery</th>
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<tbody>
<tr>
<td>Krishnapatnam</td>
<td>Indien (Coal)</td>
<td></td>
<td>2 x 800 MW</td>
<td>573 °C / 266 bar</td>
<td>2012</td>
<td>Technical consulting, hydraulics and final control element commissioning</td>
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<tr>
<td>Neurath Power Plant</td>
<td>Germany (Brown cowl - lignite)</td>
<td></td>
<td>2 x 1100 MW</td>
<td>600 °C / 272 bar</td>
<td>2011 / 2012</td>
<td>Commissioning, training, spare parts, modifications</td>
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<tr>
<td>Waigaoqiao Power Plant</td>
<td>Shanghai, China (Coal)</td>
<td></td>
<td>5000 MW</td>
<td>542/568 °C / 279 bar</td>
<td>2000 – 2012</td>
<td>Technical consulting, pressure testing and pickling services, commissioning</td>
</tr>
<tr>
<td>Andasol III</td>
<td>Spanien (Solar)</td>
<td></td>
<td>1 x 50 MW</td>
<td>408 °C / 143 bar</td>
<td>2011</td>
<td>Pressure testing and pickling services, commissioning</td>
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