

# Applications in Conventional Power Plants

## Industrial Cooling Water

Cooling of media used is a main requirement in a variety of processes. Either the medium is cooled directly in the process or indirectly via secondary cooling loops. Water used for power plant cooling is chemically altered for the purpose of extending the useful life of the associated equipment, and to ensure greater system efficiency.

**01**

## Chemical Conveyance

Safe conveyance of environmentally hazardous media is a must. The risk of stress cracking in piping systems has to be minimized. Double containment pipe systems can be implemented to virtually exclude the risk of accidents. The technology permits jointing the inner and outer pipelines separately, allowing pressure testing of both lines independently.

**02**

## Water Intake Lines

Water intake lines convey raw water from the source, rivers or the sea, to the storage area before its treatment. Inhibitors such as biocides are added to prevent biofilm build up as well as incrustation. Since long distances are bridged, a corrosion free solution is needed. Often involving large diameters, a complete system is a must.

**03**

## Flue Gas Desulfurization

Flue gas desulfurization (FGD) is an essential key technology in environmental protection to effectively remove sulfur dioxide from the outgoing flue gas e.g. by wet lime method or seawater FGD. As several aggressive chemicals and abrasive media are used, the correct plastic system is critical to provide a reliable and durable system.

**04**

## Water Distribution

Connecting water main lines, service lines and hydrant water supply, both reliably and safely, is the key success factor for any plastic piping system. With a wide range of components, sizes and jointing technologies, a complete solution is available up to d1200. Larger dimensions are available on request.

**05**

## Gas Distribution

The gas connection from the power plant perimeter to the distribution around the site is critical, therefore a safe connection is required. With gas distribution lines generally operating at 0.1 to 10 bar and typically dimensioned in the range of d90 to d225, many proven and reliable systems are available.

**06**

## Fire Fighting

Our ecoFIT pipings are FM approved and can be used for underground fire extinguishing pipelines up to the dimension d1200. Sprinkler lines and connections must meet local fire laws. Corrosion-free and reliable jointing systems are a key criteria.

**07**

## Safety Showers

Safety showers are an important part of industrial health and safety concepts. With our pre-insulated COOL-FIT ABS Plus system, we offer an energy efficient and durable solution. Under certain conditions, COOL-FIT ABS Plus can even be an alternative to conventional heat tracing on metal pipes.

**08**

## Slurry Transfer

In order to transport the ash slurry waste away from the process, a corrosion-free, highly abrasion resistant system is needed. Involving long distances, correct and reliable jointing of the system is a must. As part of the system, a complete range of automation (measurement and control technology) is required.

**09**

# Intelligent plastic solutions to successfully manage your power plant

## Water Treatment

Power stations require high volume of water in high water quality to feed boilers, processes, and cooling systems. Avoiding contamination, scale formation and corrosion in these systems is essential. Waste water needs to be neutralized before being discharged into public sewage treatment plants. All these operations must be controlled correctly with automation systems.



10

## Desalination

Salt is removed from sea water to produce fresh water. This provides the water source where natural water is scarce. To maximize energy efficiency, desalination plants are often linked to cogeneration plants. Prefabrication of parts used for the reverse osmosis skids, is an important area in which we support.



11

## Makeup Water

The boiler feed water is treated to remove soluble salts in upstream process stages. Subsequently, soluble gases are removed, especially oxygen and carbon dioxide. Makeup water is highly purified before use as well. Various chemical additives are metered in depending on the boiler type, chemical mode of operation and residual salt content.



12

## Compressed Air

The compressed air system must be leak proof and durable over its entire lifetime. To compensate pressure surges, it must be flexible and not transmitting vibration. The smoothness of the inner surface ensures minimal frictional losses in the piping system and maximum efficiency. This results in significant energy savings and reduced operating costs of the system.



13

## Hot & Cold Water in Buildings

Industrial facilities have one thing in common: they all need an environment-friendly heating and cooling system as well as a reliable supply of drinking water. System solutions in compliance with specified drinking water qualities and with diverse connection technologies are designed for particular building situations. High flexibility can be offered thanks to prefabrication of the installation components.



14

## Measurement, Control & Actuation

With an innovative product portfolio in the field of measurement, control and actuation devices, we follow our system approach consistently. The complete solution combines measurement, control and actuation technology together with high quality piping systems and therefore represents a unique form of product and competence bundling.



+

## Value Added Services

From planning support to implementation, our support ranges from technical manuals, CAD library, training, logistics, calculation tools, world renowned chemical resistance support, customization solutions and much more. Worldwide, our customers benefit from our local support offering.



+

## Maintenance & Repair Products up to DN 2800

The amount of water loss that is unaccounted for is typically around 20-30%. Leakage in all areas of the water grid is usually the major cause. The causes include corrosion, material defects due to quality, water hammer, ground movement, environmental impact and more. The method of repair depends upon the site conditions, piping materials and availability.



+