

**P6**

(May  
2005)  
(Rev.1  
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# Shell Type Exhaust Gas Heated Economizers That May Be Isolated From The Steam Plant System

## P6.1 Application

This UR is applicable to shell type exhaust gas heated ~~economiser~~ economizers that are intended to be operated in a flooded condition and that may be isolated from the steam plant system.

All shell type exhaust gas heated ~~economiser~~ economizers that may be isolated from the steam plant system in a flooded condition and which are fitted on board ships contracted for construction on or after 1 January 2007 are to comply with this UR.

## P6.2 Design and Construction

Design and construction of shell type ~~economiser~~ economizers are to pay particular attention to the welding, heat treatment and inspection arrangements at the tube plate connection to the shell.

## P6.3 Pressure Relief

P6.3.1 Where a shell type economizer is capable of being isolated from the steam plant system, it is to be provided with at least one safety valve, and when it has a total heating surface of 50 m<sup>2</sup> or more, it is to be provided with at least two safety valves in accordance with the classification society requirements.

~~P6.3.2—Such safety valves for shell type exhaust gas heated economizers are to incorporate features that will ensure pressure relief even with solid matter deposits on the valve and guide, or features that will prevent the accumulation of solid matter in way of the valve and the in the clearance between the valve spindle and guide.~~

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Note:

1. The requirements of P6 Rev.1 are to be uniformly implemented by IACS Societies for shell type exhaust gas heated economizers:
  - i) when an application for certification of a shell type exhaust gas heated economizers is dated on or after 1 July 2016; or
  - ii) which are installed in new ships for which the date of contract for construction is on or after 1 July 2016.
24. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR) No. 29.

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~~P6.3.3 Where no safety valves incorporating the features described in P6.3.2 are fitted, a bursting disc according to P6.3.3.1 is to be provided.~~

~~P6.3.3.1 A bursting disk discharging to suitable waste steam pipe is to be fitted in addition to the valve. The alternative arrangements for ensuring pressure relief in the event of solid matter on the valve and guide are to function at a pressure not exceeding 1.25 times the economizer approved design pressure and are to have sufficient capacity to prevent damage to the economizer when operating at its design heat input level.~~

~~P6.3.24 To avoid the accumulation of condensate solid matter deposits on the outlet side of safety valves and bursting discs, the discharge pipes and/or safety valve/bursting disk housings are to be fitted with drainage arrangements from the lowest part, directed with continuous fall to a position clear of the economizer where it will not pose threats to either personnel or machinery. No valves or cocks are to be fitted in the drainage arrangements.~~

~~P6.3.35 Full details of the proposed arrangements to satisfy P6.3.1 to P6.3.24 are to be submitted for approval.~~

**P6.4 Pressure Indication**

~~P6.4.1 Every shell type economizer is to be provided with a means of indicating the internal pressure. A means of indicating the internal pressure is to be located so that the pressure can be easily read from any position from which the pressure may be controlled.~~

**P6.5 Lagging**

Every shell type economizer is to be provided with removable lagging at the circumference of the tube end plates to enable ultrasonic examination of the tube plate to shell connection.

**P6.6 Feed Water**

Every ~~economiser~~ economizer is to be provided with arrangements for pre-heating and de-aeration, addition of water treatment or combination thereof to control the quality of feed water to within the manufacturer's recommendations.

**P6.7 Operating Instructions**

The manufacturer is to provide operating instructions for each ~~economiser~~ economizer which is to include reference to:

- Feed water treatment and sampling arrangements.
- Operating temperatures – exhaust gas and feed water temperatures.
- Operating pressure.
- Inspection and cleaning procedures.
- Records of maintenance and inspection.
- The need to maintain adequate water flow through the ~~economiser~~ economizer under all operating conditions.
- Periodical operational checks of the safety devices to be carried out by the operating personnel and to be documented accordingly.
- Procedures for using the exhaust gas ~~economiser~~ economizer in the dry condition.
- Procedures for maintenance and overhaul of safety valves.

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