

Graphical symbols for power generating plant —

Graphical symbols for general
engineering

UDC 620.4:003.62

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Co-operating organizations

The Mechanical Industry Standards Committee, under whose supervision this British Standard was prepared consists of representatives from the following Government departments, and scientific and industrial organizations:

- Admiralty*
- Air Ministry*
- Associated Offices Technical Committee
- Association of Consulting Engineers Incorporated
- British Chemical Plant Manufacturers' Association
- British Compressed Air Society
- British Electrical and Allied Manufacturers' Association*
- British Engineers' Association*
- British Internal-combustion Engine Manufacturers' Association*
- British Iron and Steel Federation
- British Railways
- Crown Agents for the Colonies
- Department of Scientific and Industrial Research
- Engineering Equipment Users' Association
- Institute of Marine Engineers*
- Institute of Petroleum
- Institution of Civil Engineers*
- Institution of Gas Engineers*
- Institution of Heating and Ventilating Engineers
- Institution of Mechanical Engineers*
- Institution of Mechanical Engineers (Automobile Division)
- Institution of Production Engineers
- Locomotive Manufacturers' Association
- Machine Tool Trades' Association
- Ministry of Fuel and Power
- Ministry of Labour and National Service
- Ministry of Supply
- Ministry of Transport
- Ministry of Works*
- Office of the High Commissioner for India
- War Office*

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this standard:

- Association of Technical Institutes
- British Coal Utilisation Research Association
- British Electrical and Allied Industries Research Association
- General Post Office
- Institute of Fuel
- Institution of Chemical Engineers
- Institution of Electrical Engineers
- Institution of Engineers and Shipbuilders in Scotland
- Institution of Mining and Metallurgy
- Institution of Structural Engineers
- Institution of Water Engineers
- North East Coast Institution of Engineers and Shipbuilders
- Society of Chemical Industry

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been approved by the Mechanical Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 21 September 1950

© BSI 03-1999

ISBN 0 580 32492 3

Contents

	Page
Co-operating organizations	Inside front cover
Foreword	ii
Section 11. Steam plant	
Group 11A. Steam generators	1
Group 11B. Prime movers	1
Group 11C. Condensers	2
Group 11D. Heat exchangers	2
Group 11E. Pumps, ejectors and fans	2
Group 11F. Tanks and de-aerators	3
Group 11G. Miscellaneous	4
Section 12. Reciprocating Internal-combustion engines	6
Section 13. Gas turbines	7
British Standards on allied subjects	7
Typical diagram of steam power generating plant	8
Typical diagram of Diesel engine driving air-compressor	9
Typical diagram of Diesel engine used as a gas generator for a power gas turbine	10
Typical diagram of gas-turbine cycle	11
Alphabetical index of symbols	12

Foreword

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 9,000, fully indexed and with a note of the contents of each, will be found in the BSI Catalogue which may be purchased from BSI Sales Department. The Catalogue may be consulted in many public libraries and similar institutions.

It has long been felt that, except in the electrical engineering field, there has been a lack of uniformity in the method adopted for the preparation of schematic diagrams of engineering plant generally and that there is need for standardized symbols by which particular items of the plant can conveniently be identified, applying equally to different branches of engineering.

To meet this need, the preparation of a series of British Standards for graphical symbols for general engineering has been undertaken.

This Part, which provides graphical symbols for Power Generating Plant, forms Part 2 of this series.

Part 1, published separately, deals with graphical symbols for Pipes, Valves and Fittings. Part 3 deals with Compressing plant.

For other relevant British Standards, see list on page 7.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

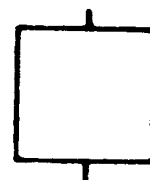
This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 12 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

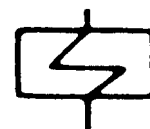
Section 11. Steam plant

Group 11A. Steam generators

11A1 Boiler, general symbol.

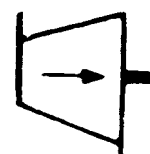


11A2 Superheater, Flue-gas re-heater or Economizer.
Additional connections may be shown as required for air, flue gas, etc.

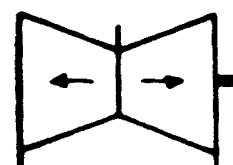


Group 11B. Prime movers

11B1 Steam turbine, general symbol or single-flow turbine cylinder.

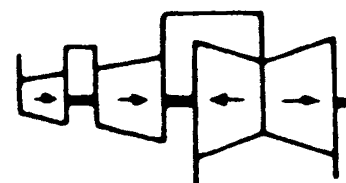


11B2 Double-flow steam-turbine cylinder.
NOTE Multi-cylinder turbines may be shown by combinations of these symbols.

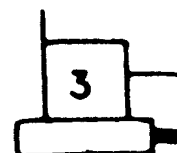


Example:— Three-cylinder turbine with double-flow exhaust cylinder.

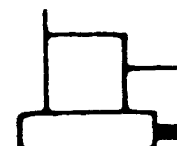
In such cases as mixed-flow, pass-out, or bled-steam turbines, additional connections may be shown on the turbine cylinder.



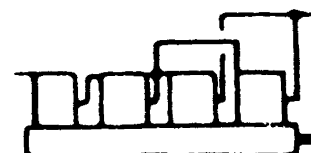
11B3 Reciprocating steam engine, general symbol.
Number of cylinders may be shown by a figure within the symbol.



11B4 Reciprocating steam-engine cylinder.
NOTE Any number of these symbols may be combined to show a complete engine.

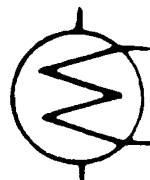


Example:— Four-cylinder triple-expansion engine.

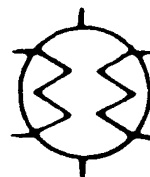


Group 11C. Condensers

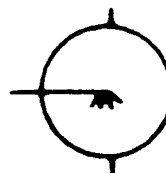
11C1 Surface condenser unit.



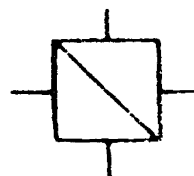
11C2 Surface condenser unit, divided on water side.



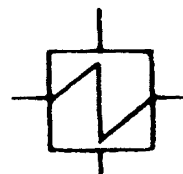
11C3 Jet condenser unit.

**Group 11D. Heat exchangers**

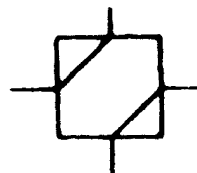
11D1 Live-steam re-heater.



11D2 Feed-water heater, de-superheater, attemperator or water cooler, surface type.



11D3 Air pre-heater.

**Group 11E. Pumps, ejectors and fans**

11E1 Pump, general symbol.



11E2 Pump, positive-displacement.

