

comprises a plurality of loading tray elements, each loading tray element comprising at least one loading opening, and at least some of the loading tray elements comprising at least two loading openings, the loading tray elements being fitted together to form an array of loading openings.

[0024a] In another aspect, there is provided a catalyst loading tray for loading particulate catalyst into a catalytic reactor comprising an array of substantially vertical reaction tubes; wherein the catalyst loading tray comprises a loading tray as defined herein.

[0024b] In another aspect, there is provided a loading tray element for a loading tray as defined herein, the loading tray element comprising two or more loading openings.

[0024c] In yet another aspect, there is provided a method of filling an array of substantially vertical tubes with a particulate material, comprising the steps of: a) disposing a loading tray as defined herein above the array of tubes so that the loading openings align with openings of the tubes; b) supplying the particulate material to the array of loading openings such that the particulate material passes through the loading openings and the tube openings; and c) removing the loading tray from the array of tubes.

[0024d] In still another aspect, there is provided a method of filling a catalytic reactor comprising an array of substantially vertical reaction tubes with a particulate catalyst comprising the method described herein.

[0024e] In yet another aspect, there is provided a kit of parts comprising: a plurality of catalyst loading tray modules as defined herein; a plurality of catalyst filler sleeves disposable within the catalyst loading openings of the catalyst loading tray modules; and preferably a plurality of modular end walls releasably attachable to the catalyst loading tray modules.

[0025] When assembled into a loading tray, the loading tray elements are disposed adjacent one another to form a loading template with an extended array of loading holes. The loading tray elements preferably closely abut one another leaving little to no space between their adjacent sides.

[0026] In one aspect the invention takes the form of a catalyst loading tray for loading catalyst pellets into a catalytic reactor comprising an array of substantially vertical reaction tubes; wherein the loading tray is modular comprising a plurality of loading tray modules, each loading tray module comprising two or more loading openings, the loading tray modules being fitted together to form a template of loading openings.

[0027] Conventional catalyst loading templates are reactor specific in dimension so that they can be used only with the catalytic reactor for which they have been designed. These

conventional templates require labour intensive filling by personnel sweeping catalyst particles over the template.

[0028] This labour intensive filling by personnel has been somewhat addressed by the prior art by use of filling aids. Such filling aids are more expensive and bulky than simple templates and the question of cost and space becomes an issue in providing reactor specific filling aids. Hence it has been attempted to create catalyst loaders that can be applied to a variety of catalytic reactors. For example, parallelogram reciprocal shifting loaders are much smaller than the typical tubesheet and so can be applied to different tube sheets. Although they are very useful in obtaining good catalyst loading, they are limited in their application because they cannot reach all the reaction tubes of a catalytic reactor, for example those at the circular periphery a cylindrical catalytic reactor, or those located adjacent to or inline with upstanding tubesheet supports or coolant tubes. This is particularly a problem since the radius, and hence outer curve, varies between catalytic reactors. In addition the location of supports and coolant tubes are non-standard. Reaction tubes that are not filled by use of the filling aids must be filled by hand with consequent increases in labour requirements, down-time and risks of inhomogeneous packing across the reaction tubes.