

Title (en)

METHOD AND DEVICE FOR DAMPING THE PRESSURE SURGE ON FLAME ARRESTERS IN THE CASE OF DETONATIONS

Title (de)

VERFAHREN UND VORRICHTUNG ZUM DÄMPFEN DES DRUCKSTOSSES AN FLAMMENSPERREN BEI DETONATIONEN

Title (fr)

PROCEDE ET DISPOSITIF POUR AMORTIR LE COUP DE BELIER AU NIVEAU D'ARRETE-FLAMME EN CAS DE DETONATIONS

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Application

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Abstract (en)

[origin: WO0137933A2] The invention relates to a method for damping the pressure surge on flame arresters, in particular, band safety devices, in the case of detonations of gas/air and/or vapour/air mixtures in plants, tanks and pipe systems, whereby the growing detonation front is divided. The invention further relates to a device for carrying out the method, in housings lying on pipe axes, which are in the form of passages or corner-pieces and a dry flame arrester with at least one band safety device, with or without a safety stop arranged in the direction of the flame source. The aim of the invention is to improve a method and device as described above, such that the band safety device is constantly impinged upon, with or without prior baffling of the detonation front, largely reflection free and with simultaneous shortening of the overall length. The division of the detonation front into a number of partial reaction fronts is achieved by means of cleft-like channels of relatively long length. The partial reaction fronts have both heat energy and kinetic energy drawn off as they pass along the channels. The partial reaction fronts are finally guided to the band safety device, in an almost laminar and direct manner. In order to carry out the method a pre-filter like a band safety device is provided, whose gap width is clearly greater than the usual gap width of each gas/air and/or vapour/air mixture and clearly greater than the gap width of the present band safety device.

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