

Method for removal of dust-gas phase from melting unit includes formation of rarefaction and swirling of flow of dust-gas phase. Swirling of dust-gas phase is performed in opposite directions at mutual intersection of side surfaces of both rotary flows. Device for removal of dust-gas phase from melting unit has vertical cylindrical chamber and branch pipe placed in tangent position with respect to the chamber. Cylindrical chamber has in horizontal cross section shape of two connected circles with same diameters. Branch pipe is installed in tangent position with respect to both circles that form horizontal cross section of the chamber and normally with respect to long axis of that cross section. Increase of effectiveness of operation of steel melting unit is provided.