

Title (en)  
Water-cooled cyclone separator

Title (de)  
Wassergekühlter Zyklonabscheider

Title (fr)  
Séparateur cyclone à refroidissement par eau

Publication  
**EP 0543564 B1 19970115 (EN)**

Application  
**EP 92310317 A 19921112**

Priority  
US 79751091 A 19911121

Abstract (en)  
[origin: EP0543564A1] A cyclone separator formed by a plurality of parallel tubes (14) and a plurality of fins (16). Each tube (14) is configured in a multitude of segments. One segment of the tubes forms a cylindrical section (6), one segment is bent inwardly to form a roof section, and one segment is bent inwardly to form a conically-shaped hopper section (8). As the circumference and diameter of the hopper section (8) decreases from top to bottom, at least a portion of the tubes are configured, either by being extracted or swaged, to accommodate the decreasing circumference and diameter, which results in an increase in the heat recovery of the water-cooled heat transfer tubes without the need for an intermediate ring header.  
<IMAGE>

IPC 1-7  
**B04C 5/20**; **F22B 37/14**

IPC 8 full level  
**B04C 5/08** (2006.01); **B04C 5/20** (2006.01); **F22B 37/14** (2006.01); **F28D 7/00** (2006.01)

CPC (source: EP KR)  
**B04B 5/00** (2013.01 - KR); **B04C 5/20** (2013.01 - EP); **F22B 37/146** (2013.01 - EP); **F28D 7/0041** (2013.01 - EP); **F28D 7/005** (2013.01 - EP)

Cited by  
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ES GB IT PT

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