

Title (en)  
HELICAL INSERT FOR SHELL AND TUBE HEAT EXCHANGER BACKGROUND

Title (de)  
SCHRAUBENFÖRMIGER EINSATZ FÜR ROHRWÄRMETAUSCHER

Title (fr)  
INSERT HÉLICOÏDAL POUR ÉCHANGEUR DE CHALEUR À CALANDRE

Publication  
**EP 3682181 A1 20200722 (EN)**

Application  
**EP 18779518 A 20180911**

Priority  
• US 201762557828 P 20170913  
• US 2018050409 W 20180911

Abstract (en)  
[origin: WO2019055390A1] A heat transfer tube includes a tube having an internal tube wall, and a tube element extending along a tube length and radially inwardly from the internal tube wall. The tube element has a radial element height less than a hydraulic radius of the tube, and the radial element height is greater than a base element width at the internal tube wall. A tube and shell heat exchanger includes a heat exchanger tube extending through a housing and having a heat transfer medium flowing therethrough. The heat exchanger tube includes a tube having an internal tube wall and tube element extending along a tube length and radially inwardly from the internal tube wall. The tube element has a radial element height less than a hydraulic radius of the tube, and the radial element height is greater than a base element width at the internal tube wall.

IPC 8 full level  
**F28F 13/12** (2006.01)

CPC (source: EP US)  
**F28F 13/12** (2013.01 - EP US)

Citation (search report)  
See references of WO 2019055390A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**WO 2019055390 A1 20190321**; CN 111065880 A 20200424; EP 3682181 A1 20200722; US 2020271402 A1 20200827

DOCDB simple family (application)  
**US 2018050409 W 20180911**; CN 201880059622 A 20180911; EP 18779518 A 20180911; US 201816647167 A 20180911