

## THE THERMODYNAMIC CALCULATION OF OFFSET SHAFTS ROTARY ENGINE IDEAL CYCLE WITH EXTERNAL HEAT SUPPLY

CAMIL A. KHAFIZOV<sup>1</sup>, ROMAN A. USENKOV<sup>2</sup>, FARIT KH. KHALYULLIN<sup>3</sup> &  
RAVIL A. LATYPOV<sup>4</sup>

<sup>1</sup>Doctor of Technical Sciences, Professor, Kazan State Agrarian University, Kazan, Russia

<sup>2,3,4</sup>PhD of Technics, Associate Professor, Kazan State Agrarian University, Kazan, Russia

### ABSTRACT

*A specific ideal thermodynamic cycle was determined, quite accurately describing the work of offset shafts rotary heat engine with external heat supply. A thermal calculation was made and the values of thermodynamic condition parameters were obtained at all characteristic points of the cycle. Evaluation of the rotary heat engine efficiency was produced with mathematical method.*

**KEYWORDS:** *The Rotary Engine With External Heat Supply, Ideal Thermodynamic Cycle, Thermodynamic Condition Parameters, Thermal Efficiency, Heat & Work*

**Received:** Apr 17, 2019; **Accepted:** May 07, 2019; **Published:** Jul 18, 2019; **Paper Id.:** IJMPERDAUG2019114