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LIST OF ABBREVIATIONS

A	Area, m ²
I	Availability rate, kW
C	Specific heat, kJ/kg-K
k	Thermal conductivity, W/m-K
h	Heat transfer coefficient, W/m ² -K
h	Specific enthalpy, kJ/kg
$\dot{m}$	Mass flow rate, kg/s
Pr	Prandtl number
Q	Heat transferred, kJ
$\dot{Q}$	Heat transfer rate, kW
W	Work transferred, kJ
$\dot{W}$	Work transfer rate, kW
Re	Reynolds number
T	Temperature, °C
T _o	Dead state temperature, °C
ORC	Organic Rankine Cycle
P	Pressure, kPa
p	Power, W
t	Torque, N-m
F	Force, N
r	Length of radius, m
W	Weight, N
L	Length, m
n	Shaft speed, rpm
g	Gravitational acceleration, m/s ²
v	Velocity of the fluid, m/s
x	Distance, m

LIST OF SYMBOLS

α	overall heat addition coefficient from finite-time analysis, W/K
β	overall heat rejection coefficient from finite-time analysis, W/K
Ψ	total availability, kW
ε	void fraction or effectiveness
ρ	density, kg/m ³
η	efficiency, %
τ	thermal resource temperature ratio
θ	power cycle temperature ratio
ξ	slope of saturated vapor curve on T-S diagram



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LIST OF SUBSCRIPTS

a	ambient
c	cold stream
d	destroyed
e	electricity
f	float
g	gaseous
h	hot stream
i	inlet
n	amount of test
N	rotation speed
o	outlet
s	solid, surface
t	turbine
u	useful
p	pump
ca	carnot cycle
co	condenser
ge	generator
lm	log mean temperature difference
vg	vapor generator
wf	working fluid

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STATEMENT OF ORIGINALITY

A new modification for power production of representative method of designing, construction and testing of low-pressure turbine engine using low-temperature heat source with refrigerant such as working fluid based on the ideal Rankine cycle concepts.



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ข้อความแห่งการริเริ่ม

แนวทางการประยุกต์ดัดแปลงรูปแบบใหม่สำหรับการผลิตไฟฟ้า ซึ่งได้เป็นตัวแทนของวิธีการออกแบบ สร้าง และทดสอบของเครื่องยนต์กังหันแรงดันต่ำโดยใช้แหล่งความร้อนอุณหภูมิต่ำร่วมกับสารทำความเย็นเป็นสารทำงานบนพื้นฐานแนวคิดวัฏจักรกำลังไออุดมคติ



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