

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Winch - General Application**with type designation(s)
Force 5i Air Winch Series, Model FA10i

Issued to

Ingersoll Rand Industrial Technologies
Kent, WA, USAis found to comply with
DNVGL-OS-E101 – Drilling facilities, Edition January 2018
DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Houston** on **2019-12-04**This Certificate is valid until **2024-12-03**.for **DNV GL**DNV GL local station: **Seattle**Approval Engineer: **Bo Cui**

Christian Nilsen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-017396-2**
Certificate No: **TAS000029K**

Product description

Force 5i Air Winch Series, Model FA10i, are air powered, planetary geared units designed for and intended for use as utility winches, with a Mechanism Classification of M5. They shall not be used for lifting or moving personnel.

Application/Limitation

<u>Design Parameter</u>	<u>Value</u>	<u>(Equivalent)</u>
Minimum design temperature	-4 °F	(-20 °C)
Design Single Line Pull (SWL)	22,000 lbf	(97.9 kN)
Design Safety Factor	5.0	
Rated operating pressure	6.2 bar	(90 psig)
Maximum full drum line speed	23 ft/min	(7.0 m/min)
Applied wire rope size	1.125 in	(28.6 mm)
Min. Breaking Strength of Wire Rope	130 kip	(578.3 kN)
Number of Layers of Wire Rope on Drum	7	
Service application	General utility lifting, not for personnel lifting	

Type Approval documentation

Fabrication Procedures

Procedures related to testing, welding, NDT, etc. are to be reviewed/approved by DNV's local surveyor.

Marking of product

For traceability the following marking is to be carried out on each product:

1. Serial No.
2. Manufacturer's Name or trademark
3. Additional marking at the manufacturer's discretion

Periodical assessment

For retention of the Type Approval, DNV GL's surveyor shall perform periodical in accordance with DNV GL's Class Programme DNVGL-CP-0338, Section 4.

End of Certificate