PNEUMATIC HOISTS and TROLLEYS
Intended for use in
Potentially Explosive Atmospheres

The EC Declaration of Conformity in this manual states that these Pneumatic Hoist and Trolley models are in compliance with European Community Directive 94/9/EC for equipment intended for use in potentially explosive atmospheres, commonly referred to as the ATEX Directive.

Standard Pneumatic Hoist and Trolley models conform to and are marked for use as defined by ATEX designation:

II 3 GD c IIB 135°C X

Pneumatic Hoist and Trolley models with the addition of the Ingersoll Rand “ATEX” package of spark protection conform to and are marked for use as defined by ATEX designation:

II 2 GD c IIB 135°C X

These ATEX designations define the applications, the type and duration of the potentially explosive atmospheres, the type of protection, and the maximum surface temperature.

Hoists intended to be used in underground parts of mines as well as those parts of surface installations of such mines endangered by firedamp and/or combustible dust are marked for use as defined by ATEX designation:

I M2 c IIB 135°C X

The X indicates that additional special conditions are required for safe application, operation and/or maintenance of these tools when used in potentially explosive atmospheres.

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These ATEX designations define the applications, type and duration of the potentially explosive atmospheres, type of protection, and the maximum surface temperature.

This symbol indicates certification for use in an explosive atmosphere and is followed by other symbols indicating the details of that certified use.

I - Indicates Equipment Group I - Mine use.
II - Indicates Equipment Group II - Non-Mine Use.
2 - Indicates Equipment Category 2 - Equipment Category 2 is intended for use in areas in which explosive atmospheres caused by gases, vapors, mists or air/dust mixtures are only occasionally likely to occur. Protection level is very high during normal use and in the event of frequently occurring disturbances or equipment faults.
3 - Indicates Equipment Category 3 - Equipment Category 3 is intended for use in areas in which explosive atmospheres caused by gases, vapors, mists or air/dust mixtures are unlikely to occur. Protection level is normal during intended use and in the event of infrequently occurring disturbances or equipment faults.
M2 - These products are intended to be de-energized in the event of an explosive atmosphere. Protection methods must be incorporated to provide a high level of safety.
G - Indicates evaluation for explosive atmospheres caused by gases, vapors or mists.
D - Indicates evaluation for explosive atmospheres caused by dust.
c - Indicates type of explosion protection per standard EN 13463-5 in which constructional measures are applied so as to provide safety against the possibility of ignition.
IIB - Indicates certification for use in Group B which covers gases with an MIC ratio of 0.45 to 0.8 and MESG value of 0.55 to 0.9 mm. If certified for Group B it would be safe in Group A, which covers gases with MIC ratio above 0.8 and MESG above 0.9 mm.
Tmax - Indicates the maximum surface temperature in degrees Centigrade.
X - Indicates that there are special conditions for safe application, installation, operation and maintenance which must be followed for the certification to apply.

**NOTICE**

- All Special Conditions must be followed for this product to conform to the ATEX Directive and for the ATEX Declaration of Conformity to be valid.
Special Conditions for Safe Applications, Operations and Maintenance

**WARNING**

- Non-compliance with any of these Special Conditions could result in ignition of explosive atmospheres.

- Refer to Ingersoll Rand’s specification supplied with the pneumatic hoist or trolley for proper filtering and lubrication in air supply line.
- Proper lubrication and maintenance are required to prevent premature component failures. Follow the recommendations in the lubrication and maintenance sections of the manual supplied with the hoist or trolley.
- Air pressure above 7 bar (700 kPa / 105 psig) at the inlet may result in a source of ignition caused by premature failure of bearings or other components due to excessive speed, output torque or force.
- Do not operate the hoist or trolley with the air pressure at the inlet below 5.5 bar (550 kPa / 80 psig). Low air pressure to the hoist or trolley may cause the brake to partially engage during operation resulting in elevated temperatures.
- The entire hoist system, from the trolley or load hook to the bottom hook, the control pendant and the payload shall be earth grounded at all times to prevent ignition hazards from electrostatic discharge. A resistance to earth of less than 10000 Ohms is required. Do not disconnect or insulate any grounding or strain relief cables. When using a nonconductive sling or harness or a nonconductive link or barrier an independent ground must be applied.
- Never use a pneumatic hoist or trolley when there is any possibility that a gas in Group C (acetylene, carbon disulfide, and hydrogen, as defined in EN 50014), hydrogen sulfide, ethylene oxide, light metal dusts or dusts sensitive to impact may be present. These atmospheres cause a high probability of explosion.
- Do not allow hard contact of the bottom block, hook, load chain or pendant control against other objects. The impact of any hoist or trolley component beyond normal use may cause an ignition hazard from sparks.
- The maximum expected surface temperature of the hoist or trolley is 135°C measured during brake malfunction. Inspect the hoist or trolley for air leaks and proper brake engagement, prior to operation.
- Check for abnormally elevated temperatures during operation that may be an indication of overload or potential failure of bearings, brake or other mechanical components.
- If elevated temperatures or elevated vibration levels are detected shut the hoist and/or trolley off and discontinue its use until it can be inspected and/or repaired.
- Do not use a pneumatic hoist or trolley that exhibits rust or rust films that may come in contact with aluminum, magnesium or their corresponding alloys.
- Do not perform maintenance or repairs in an area where explosive atmospheres are present.
- Do not clean or lubricate a pneumatic hoist or trolley with flammable or volatile liquids such as kerosene, diesel or jet fuel. A potentially explosive atmosphere may be created.
- Hoists and trolleys with ATEX certification are intended for general industrial material handling use in conformance to their labeled designation and these special conditions. Special assessments, for other specific applications requiring increased protection, should be requested by written inquiry to Ingersoll Rand.

**NOTICE**

- To safely use this product and conform with the provisions of the Machinery Directive 98/37/EC, all instructions given in the accompanying literature, in addition to all conditions, notices and warnings given herein, must be followed.
Refer to appropriate winch Parts, Operation and Maintenance Manuals for additional installation, inspection and operation instructions.

**WARNING**

- Pneumatic Hoists use oil to prevent excessive heat build up and to prevent wear that could cause sparks. Oil levels must be properly maintained.

### Inspection

1. Check hoist for oil leaks daily. Immediately repair any leaks.
2. Check oil level in motor daily.
3. At the beginning of each shift, operate the hoist in both directions without a load. Ensure the motor runs free and brake does not drag.
4. Check oil level in gearbox every 3 months.
5. Check oil in automatic disc brake every 3 months.
6. Keep hoist housings clean of dust and dirt build up which can cause heat build up.

**WARNING**

- A worn or improperly functioning brake may cause excessive heat build up or sparks.

### Operation

1. When lowering loads near the hoist's rated load and at very slow speeds, monitor the temperature of the brake housing. This load/speed combination may result in automatic brake dragging, which could cause heat build up. Indications that the heat build up on the brake is excessive are:
   a. Housing surface temperatures in excess of 120° C
   b. Visible indications of hot paint, such as blisters or scorching
   c. The smell of hot oil or burning paint
2. Stop all operations any time a hot brake is detected.
3. Ensure load chain piles naturally in chain bucket. Load chain that does not pile naturally can chafe excessively, leading to sparks.
DECLARATION OF CONFORMITY

Ingersoll Rand, 529, Avenue Roger Salengro, 59450 Sin Le Noble, France

By using the following Principle Standards:
EN 292-1; EN 292-2; EN 418; EN 983; F.E.M. 1.001; F.E.M. 9.511; EN 13463-1; pr EN 13463-5;

Date: December, 2005

Jean-Luc Faillon - IREP - Sin le Noble (France)

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Form MHD56345 Edition 1
Supplier's Name: Ingersoll Rand
Address: 529, Avenue Roger Salengro, 59450 Sin Le Noble, France

Declare under our sole responsibility that the product:
Air Chain Hoists / Trolleys

To which this declaration relates, is in compliance with provisions of Directives:
98/37/EC (machinery), 94/9/EC (ATEX)

By using the following Principle Standards:
EN 292-1; EN 292-2; EN 418; EN 983; F.E.M. 1.001; F.E.M. 9.511; EN 13463-1; pr EN 13463-5; EN 1127-1

Model: HA1, HA2 and HA3 Hoists

Serial Number Range: HL003608 and up

Date: December, 2005

Approved By:
Jean-Luc Faillon - IREP - Sin le Noble (France)