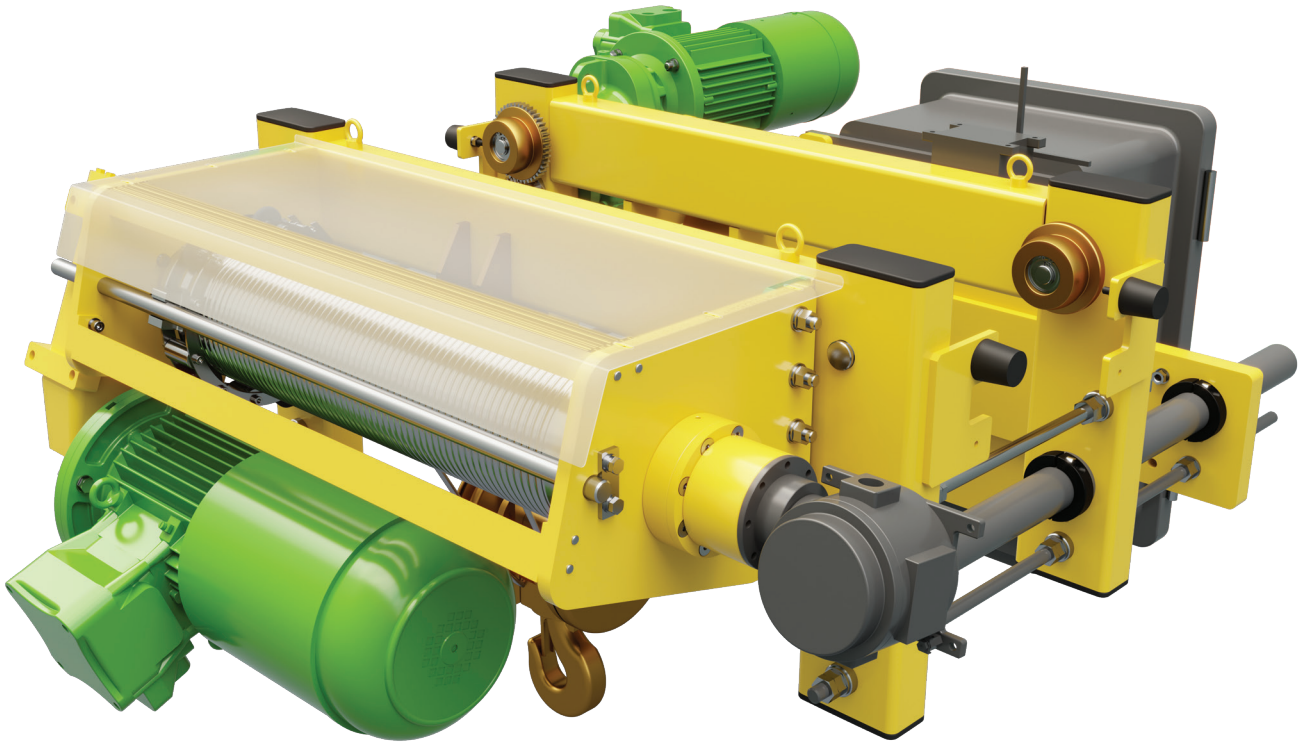


Official Distributor for South Africa

**MORRIS**  
AFRICA'S LIFTING LEGEND



**engineering**  
trasporto sollevamento



# EXPLOSION PROOF WIRE ROPE HOIST



The way to lift your ideas

# THE COMPANY

**ETS is a Leading Company in the manufacturing of Lifting Devices dedicated to the OIL & Gas market both On-Shore & Off-Shore.**

ETS main responsibility is towards the continuous improvement of the quality of the product with special attention to environment and safety.

Modern technologies, constant training and commitment are the key factors that complete the great experience matured in the lifting sector after more than 40 years of activities.

Each achievement is the lifeblood for a new challenge.

Commitment, expertise, flexibility, innovation make ETS one of the most fair and dynamic companies of this sector in Europe with thousands of projects awarded all over the world for all major EPC companies.

Follow us in our daily endeavor to study, design and realize for you THE WAY TO LIFT YOUR IDEAS.



design

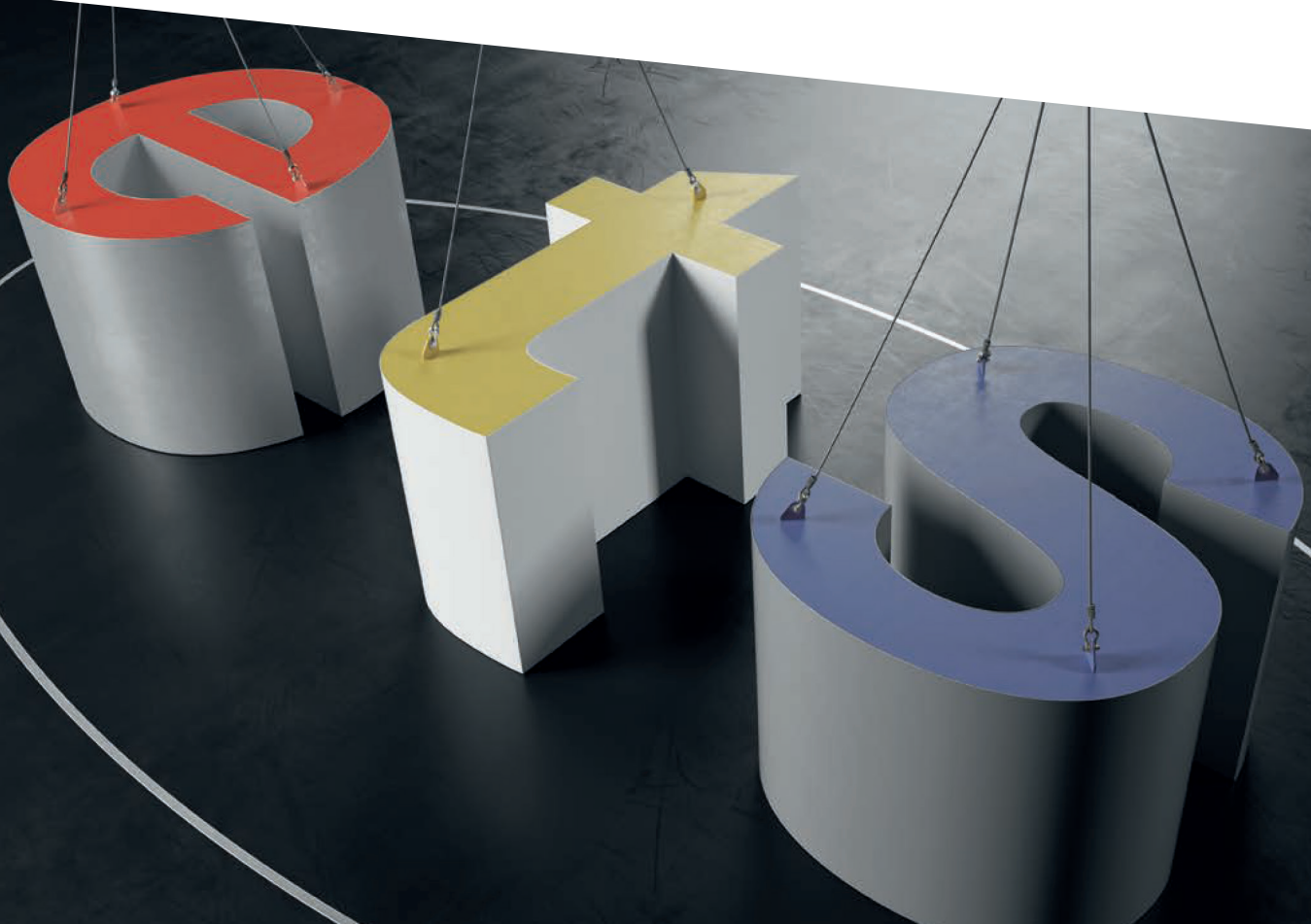
## QUALITY

ETS Engineering Spa besides the design and production of cranes and hoists in accordance with Machine Directive 2006/42/EC, is also to design and produce cranes and hoists in accordance to European Directive Atex 2014/34/EU.

ETS is certified ISO 9001, ISO 14001 and OHSAS 18001 and notified through Bureau Veritas for the production of explosion-proof cranes with deposit of Technical File of Risk Analysis as prescribed by the Annex VIII of Atex Directive.

All products ETS satisfy safety requirements for explosion-proof areas Group II and Category 2 a 3 (Zone 1 and Zone 2 for Gas plus Zone 21 and 22 for Dust).

The explosion-proof classification comply with Exd and Ex-d/e enclosure protection.



## DOCUMENTATION

The preparation of the technical documentation, in line with project specifications and customer's expectations, is anything but simple and requires an excellent preparation of the technical staff and a high-level company organization.

Documentation is vitally important to guarantee the quality and full traceability of the product.

Clearness, completeness, easy consultation, precision, style, graphic ability and multi-language translation are essential factors that make of ETS the ideal partner for all Engineering Procurement and Contractor (EPC) Companies.

Each Project has a dedicated specification and a vast availability of Documentation (Drawings 2d&3d, Calculation Report, 3.1 Certificates, Motors Dada Sheets, Noise Data Sheets, Welding Book, NDE Reports, Painting Tests Report, Wiring Diagrams, Functional Tests Report, Atex and/or IECex Certificates and many more).

## 3D MODELLING OF ETS HOISTS WITH SOLIDWORKS

Benefits of 3D Modelling

- Solid and compact design
- Personalization according to the client's requirements
- Possibility of True Lift on request
- Structure, motors and mechanical parts are calculated with wide margin for the maximum security and reliability throughout the entire life of the product.
- State-of-the-art technological solutions.
- Maximum scrupulousness in the selection of materials.



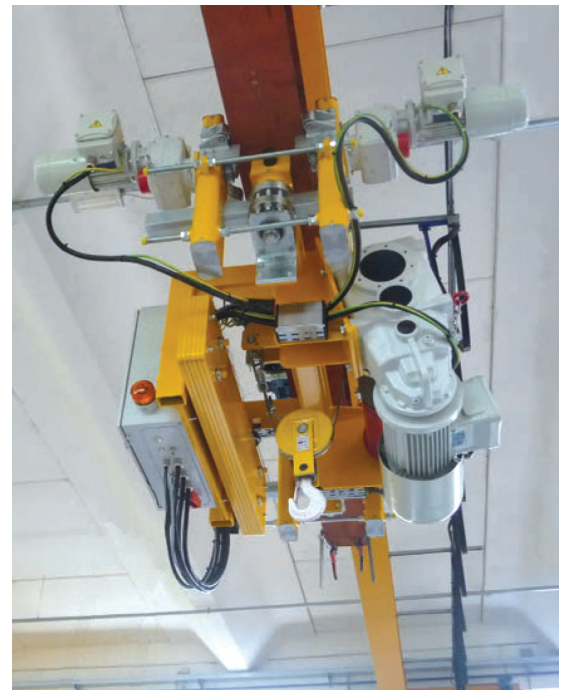
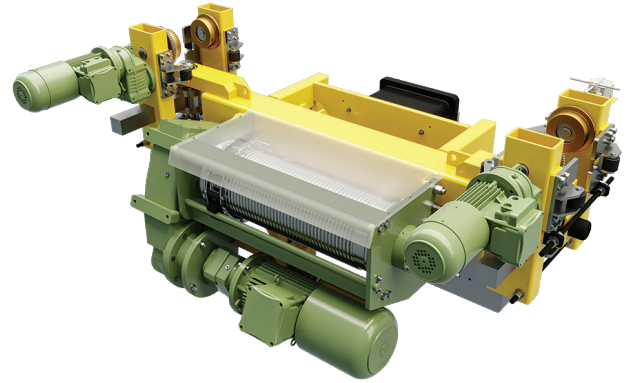
# ETS EXPLOSION-PROOF HOISTS

The range of the hoists guarantees the maximum security for capacities from 2000 Kg. to 35.000 Kg.

The WRH rope hoist is manufactured in accordance with the Machines Directive 2006/42/EC and the Atex Directive 2014/34/EU. IECEx version, EAC certification, Norsok and UL/NEMA compliance also available.

Hoists are suitable for uses in potentially explosive areas with Eex-d & Eex-d(e) protection for Zone 1 & 2 group 2G & 3G and for Gas (IIA, IIB, IIC) and Zone 21 & 22 group 2D & 3D Dust (IIIB & IIIC) and Temperature Class T3 & T4 & T5.

The three-phase asynchronous motor with IP55 / IP66 protection with insulation class F and overtemperature B allows the highest performances in the respective utilization classes.



# ATEX 2014/34/EU

## Classification of Hazardous Areas

Directive 2014/34/EU applies from 26th February 2014 for devices and protective systems intended for use in potentially explosive areas. It replaces Directive 94/9/EC. To determine the necessary safeguards in potentially explosive areas, these are divided into zones. Duration and frequency are key factors of the presence of potentially explosive atmospheres with gases and vapours, as well as with dusts.

ZONE		PROBABILITY OF AN EXPLOSIVE ATMOSPHERE
Gases	Dusts	
0	20	Very high - explosive atmosphere is continual or very frequent
1	21	High - explosive atmosphere is occasional
2	22	Low - explosive atmosphere rarely occurs

ETS Hoists comply with Zone 1 and Zone 2 for Gas as well as Zone 21 and Zone 22 for Dust



## Explosion protection ETS Wire Rope Hoists

ETS products are entirely designed and manufactured in Italy using only high quality materials with full traceability and in compliance with the applicable directives. For ETS safety of operations comes first.

Our EX hoists fulfil the highest safety standards. They comply with the ATEX Directive 2014/34/EU, the FEM regulations, the IEC 60079 standard and the European safety standards (EN).

### Gas, mist and vapours

- Petro-Chemical industry
- Refineries
- Gas supply
- Pharmaceutical plant
- Wastewater treatment
- Distilleries
- Production plants
- Drilling and Off-Shore facilities

### Dusts

- Silo plants
- Mills
- Wood processing
- Paint shops
- Grinding workshops
- Feed production plants
- Bulk materials
- Synthetic fibre production



## Technical Data

MODEL	CAPACITY (kg)	HOOK PATH (m)	FALLS (N°)	HOISTING SPEED (m/min)	POWER (kW)	TROLLEY SPEED (m/min)	POWER (kW)
WRH 2021 Y1	2000	14	2/1	4/1	2,6/0,7	20/5	0,36/0,06
WRH 2021 Y2	2000	23	2/1	4/1	2,6/0,7	20/5	0,36/0,06
WRH 3241 Y1	3200	7	4/1	4/1	2,6/0,7	20/5	0,55/0,12
WRH 3241 Y2	3200	12	4/1	4/1	2,6/0,7	20/5	0,55/0,12
WRH 5021 Y1	5000	16	2/1	4/1	5/1,25	20/5	0,55/0,12
WRH 5021 Y2	5000	29	2/1	4/1	5/1,25	20/5	0,55/0,12
WRH 5041 Y1	5000	7	4/1	4/1	4/1	20/5	0,55/0,12
WRH 5041 Y2	5000	12	4/1	4/1	4/1	20/5	0,55/0,12
WRH 6321 Y1	6300	22	2/1	4/1	6/1,5	20/5	0,66/0,18
WRH 6321 Y2	6300	42	2/1	4/1	6/1,5	20/5	0,66/0,18
WRH 8041 Y1	8000	8	4/1	4/1	5/1,25	20/5	1,1/0,3
WRH 8041 Y2	8000	12	4/1	4/1	5/1,25	20/5	1,1/0,3
WRH 10041 Y1	10000	8	4/1	4/1	6/1,5	20/5	1,1/0,3
WRH 10041 Y2	10000	15	4/1	4/1	6/1,5	20/5	1,1/0,3
WRH 10041 Y3	10000	21	4/1	4/1	6/1,5	20/5	1,1/0,3

## Main features

- Limit Switch for all movements;
- Operating Temperature -20 ° C / + 55 ° C;
- Std. Supply voltage 400 V / 50 Hz;
- TEFC IC 411 motors;
- Motor Duty S4;
- Routine testing on motors;
- Hook DIN 15401
- Hook Bronze Coated;
- Solid Bronze Wheels;
- Safety rope Coeff. 5;
- Painting C5-I or C5-M;
- Panels Marine Aluminum Copper Free;
- Cable Glands Nickel Brass;
- Steel Guide Rope;
- Pin Load Cell;
- PTC for Motors.

## Main rules

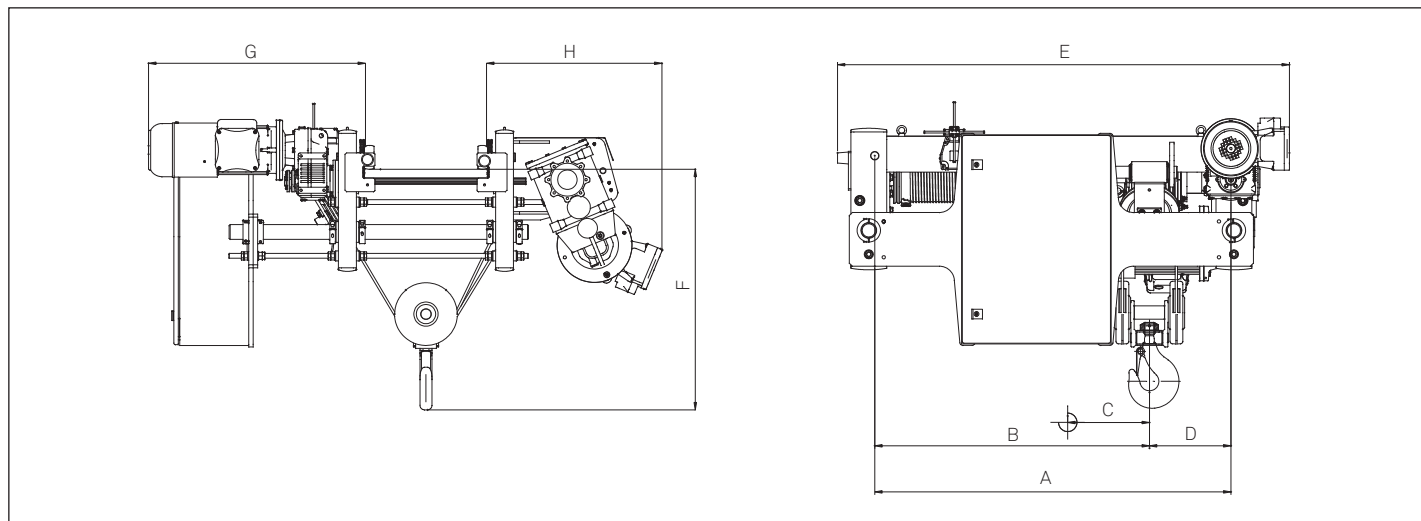
- Machine Directive 2006/42/EC;
- European Directive 2014/34/EU – Atex Directive;
- EN 1127-1 - Explosive atmospheres;
- EN 13463 - Mechanical explosion-proof protection;
- FEM 9755 - Period of safety work;
- FEM 1001 - Calculation hoisting Equipments;
- FEM 9661 - Rope eeving;
- FEM 9.683 - Electrical Motors Choice;
- FEM 9511 - Mechanisms Classification;
- IEC 60079 - Electrical apparatus for explosive gas atmospheres.

## Options

- EAC Certification;
- UL or CSA Conformity;
- Operating Temperature -40°C or +55°C
- Prototype Tests on Motors;
- SS Panels, Limit Switches or Cable Glands;
- Hoisting Brake manual lever release;
- Special Painting Cycles (ex: Norsok) with Nace/Frosio inspector;
- Articulated trolley for curved monorails;
- Rack & Pinion System for Off-Shore applications;
- Heaters for Motors and Panels;
- Canopy for outdoor Installations;
- Sea-Worthy Packing;
- Double Hoisting Brake;
- Encoders for Lifting Motors;
- Wireless Remote Control;
- 3.1 or 3.2 Certificates for Structural Parts;
- Special Voltage up to 690 V & 60 Hz;
- Impact Test on Structural parts;
- Capacity up to 35.000 Kg. (data upon request);
- Cryogenic Pump Handling with single or double drum;
- ... and many others ...



## Tip WRH



## Dimensions

MODEL	DIMENSIONS (min)								BEAM RANGE (mm)	Ø WHEEL (mm)	WEIGHT (kg)
	A	B	C	D	E	F	G	H			
WRH 2021 Y1	860	570	300	290	1240	700	720	600	150/300	80	550
WRH 2021 Y2	1100	810	450	300	1700	700	720	600	150/300	80	650
WRH 3241 Y1	870	630	200	240	1310	700	655	590	200/300	80	550
WRH 3241 Y2	1190	920	250	270	2115	700	725	590	200/300	80	650
WRH 5021 Y1	930	710	250	220	1400	1000	910	910	200/300	140	1550
WRH 5021 Y2	1505	1290	445	215	1710	1140	810	810	200/300	140	1700
WRH 5041 Y1	905	610	200	295	1350	870	770	740	240/350	120	840
WRH 5041 Y2	1215	920	360	295	1660	920	770	740	240/350	120	980
WRH 6321 Y1	1740	1470	490	270	2100	1200	910	820	240/350	160	1420
WRH 6321 Y2	1740	1470	490	270	2100	1200	910	820	240/350	160	1680
WRH 8041 Y1	910	585	250	325	1400	850	900	800	240/400	140	1200
WRH 8041 Y2	1140	815	290	325	1650	850	900	800	240/400	140	1300
WRH 10041 Y1	910	580	200	330	1400	900	900	850	300/400	160	1300
WRH 10041 Y2	1330	1030	450	300	1700	900	900	850	300/400	160	1500
WRH 10041 Y3	1750	1415	630	350	2200	900	900	850	300/400	160	1650



**Note:** technical data and dimensions for higher capacities or articulated trolley upon request.



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