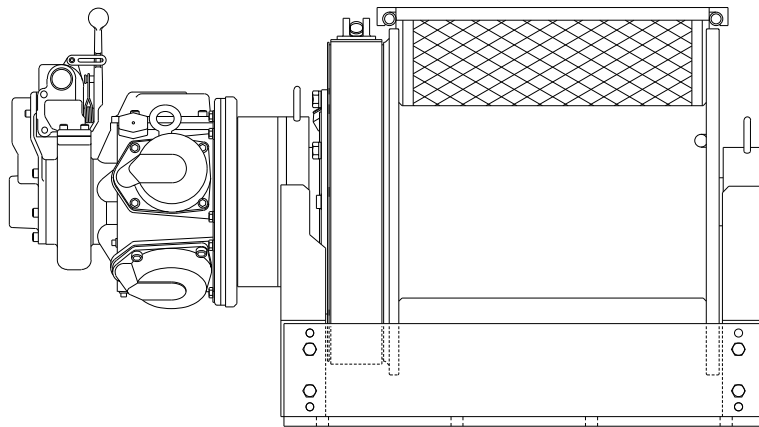


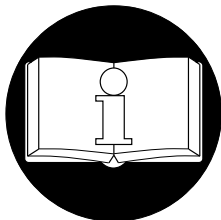
force **5**TM **AIR WINCHES**

MODEL FA5 MAN-RIDER[®] WINCH SUPPLEMENT*



* This supplement should be used in conjunction with the Model FA5 Winch Parts, Operation and Maintenance Manual Form MHD56037.

These instructions apply only to winches designed by Ingersoll-Rand that are identified for personnel lifting by a permanent nameplate attached to the winch at the factory.



READ THIS SUPPLEMENT BEFORE USING THESE PRODUCTS. This supplement contains important safety, installation, operation and maintenance information. Make this supplement available to all persons responsible for the operation, installation and maintenance of these products.

Always operate, inspect and maintain this winch in accordance with American National Standards Institute Safety Code (ASME B30.7) and all other applicable safety codes and regulations.

Form MHD56042
Edition 2
April 1996
71072888
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INGERSOLL-RAND[®]
MATERIAL HANDLING

Ingersoll-Rand offers in its air winch product line, a limited number of models referred to as *Man-Riders* which are designed and manufactured to standards and specifications established by various regulatory bodies for the purpose of lifting people.

The use of a winch to lower, lift or suspend personnel should be permitted only when other means of reaching the work site, such as ladders, stairways, aerial (bucket-type) lifts or scaffolds, are not feasible because of site conditions.

Man-Rider winches have been designed and built to meet the requirements of the Offshore Oil Exploration Industry. In particular, those specifications published by:

American Bureau of Shipping

Winches type approved and/or certified by the American Bureau of Shipping (ABS) to meet U.S. requirements covering the use of winches to raise and lower personnel.

Lloyd’s Register of Shipping

Winches type approved and/or certified by Lloyd’s Register of Shipping to meet U.K. Department of Energy (DEn) requirements covering the use of winches to raise and lower personnel in divers’ baskets, wet bells or for general use on the drilling rig floor on offshore drill rigs.

Det Norske Veritas

Winches type approved and/or certified by Det norske Veritas (DNV) to meet Norwegian Maritime Directorate (NMD) or Norwegian Petroleum Directorate (NPD) requirements.

In furnishing customers *Man-Riding* winches, **Ingersoll-Rand** does not warrant the suitability of these winches for any particular use. It is the owner and user’s responsibility to determine the suitability of a *Man-Rider* winch for a particular application. Further, it is the owner and user’s responsibility to check and satisfy all local, state, federal and country requirements pertaining to the lifting and lowering of persons.

⚠ WARNING

• **Many agencies require additional redundant safety devices on winches that Ingersoll-Rand does not furnish. Additional devices are often required to bring the system up to elevator code standards.**

Man-Rider winches manufactured by **Ingersoll-Rand** to ASB, Lloyds and/or DNV requirements are furnished with limitations; approval for use in *Man-Riding* applications automatically terminates for any of the following reasons:

1. Winch does not meet other applicable codes or standards.
2. Winch is not part of an approved system.
3. Winch is not properly maintained in a new condition with all parts intact and properly adjusted.
4. Winch is used in applications not approved by codes and regulations, or applications inconsistent with manufacturer’s operating and maintenance manual.
5. Changes in any of the standards or regulations after **Ingersoll-Rand’s** initial shipment of the product.
6. More than one winch is used to attach to a common load.

⚠ WARNING

• **Be sure to check all regulations, local, state, federal and country, that may apply to the use of a winch or winch system for lifting and lowering people before using a *Man-Riding* winch.**

7. The personnel platform shall be designed by a registered engineer competent in this area.

⚠ CAUTION

• **Man-Lifting with this winch is STRICTLY LIMITED to off-shore marine applications specifically approved by maritime regulatory bodies. Regulatory bodies, not manufacturer, have determined suitable use. DO NOT USE FOR MAN-LIFTING application not specifically approved by regulatory bodies.**

STANDARDS

The standards and/or requirements referred to by **Ingersoll-Rand** to design or manufacture *Man-Riding* winches are, at the time of this writing, as follows:

STANDARDS	ABS	Lloyds	DNV
Wire rope to drum ratio	18:1		
Wire rope safety factor at "Man-Rider" rating	8:1 or more		
Winch safety factor at "Man-Rider" rating	8:1 or more		
Throttle control	Deadman type, spring return to neutral		
Brakes:			
Automatic	One automatic brake required		
Manual	One manual or second automatic brake required		
Overspeed control	Optional	Not Required	Optional
Drum rotation indicator	Not Required		
Special "Man-Rider" label	Required		
Wire Rope Fleet Angle	Not to exceed 2° (degrees)		
Drum locking pin	Not allowed		
Disengaging clutch	Not allowed		
Drum guard	Required		
Overload Protection	Optional, required to meet CE (Community Europe) directives		
Travel limit switch	Optional		
Design approval by regulatory or certifying authority	Required		
Witness tests at time of manufacture	Required for some applications		
Re-certification	Examination required per SI 1019.		---
Minimum clear drum flange	2.5 to 3 times wire rope diameter		
Emergency Stop	Optional, required to meet CE (Community Europe) directives		
Wire Rope Winding Device	Not Required		
Data Book	Provided on request		

SAFE OPERATING INSTRUCTIONS

⚠ WARNING

• **Failure to follow these instructions may result in termination of all applicable warranties. Ingersoll-Rand assumes no liability for any loss or damage resulting from operation of *Man-Rider* winches if these operating instructions are not followed.**

1. Winch operator must be in a position to always see the personnel from transfer point to landing area.
2. Personnel operating the winch or being transferred are to have sufficient instruction/training concerning that operation before any movement takes place.
3. Lifting and lowering of personnel should be carried out above the open sea whenever possible. All personnel should wear life jackets approved by the appropriate regulatory agency and a standby vessel should be in the vicinity of the transfer.
4. Hoisting of personnel by means of a winch should only take place when other means of accomplishing this work are not practical.
5. The winch installation must be specially arranged and accepted for personnel handling.
6. Prior to any personnel movement, the entire system should be inspected by the person in charge. It is that individual's responsibility to instruct and appoint the winch operator.
7. The lifting apparatus (basket, etc.) shall be inspected and certified for personnel lifting prior to use.
8. Do not operate without a surveyor's site approval.
9. Do not overload.
10. Do not operate without testing. (Refer to "Inspection and Testing" procedures)
11. Do not operate winch in a damaged condition.
12. Do not operate winch that has not been properly maintained or equipped.
13. Do not attach winch to unsafe foundation. All bolts and foundations for winch attachment should have a higher load carrying capacity than the wire rope on the winch.
14. Do not operate winch with any personnel near the line of force or capable of coming into contact with moving parts.
15. All signs and warning notices must be posted permanently on the winch.
16. Always maintain three or more wraps of wire rope on the drum.
17. Never leave an unattended load suspended.
18. Wire rope must spool off drum from the top away from the operator.
19. **Ingersoll-Rand *Man-Riders*** are only intended for use in unguided systems.

LABELS

Man-Rider winches are supplied with the label shown. If the label is not attached to your winch order and install a new one.

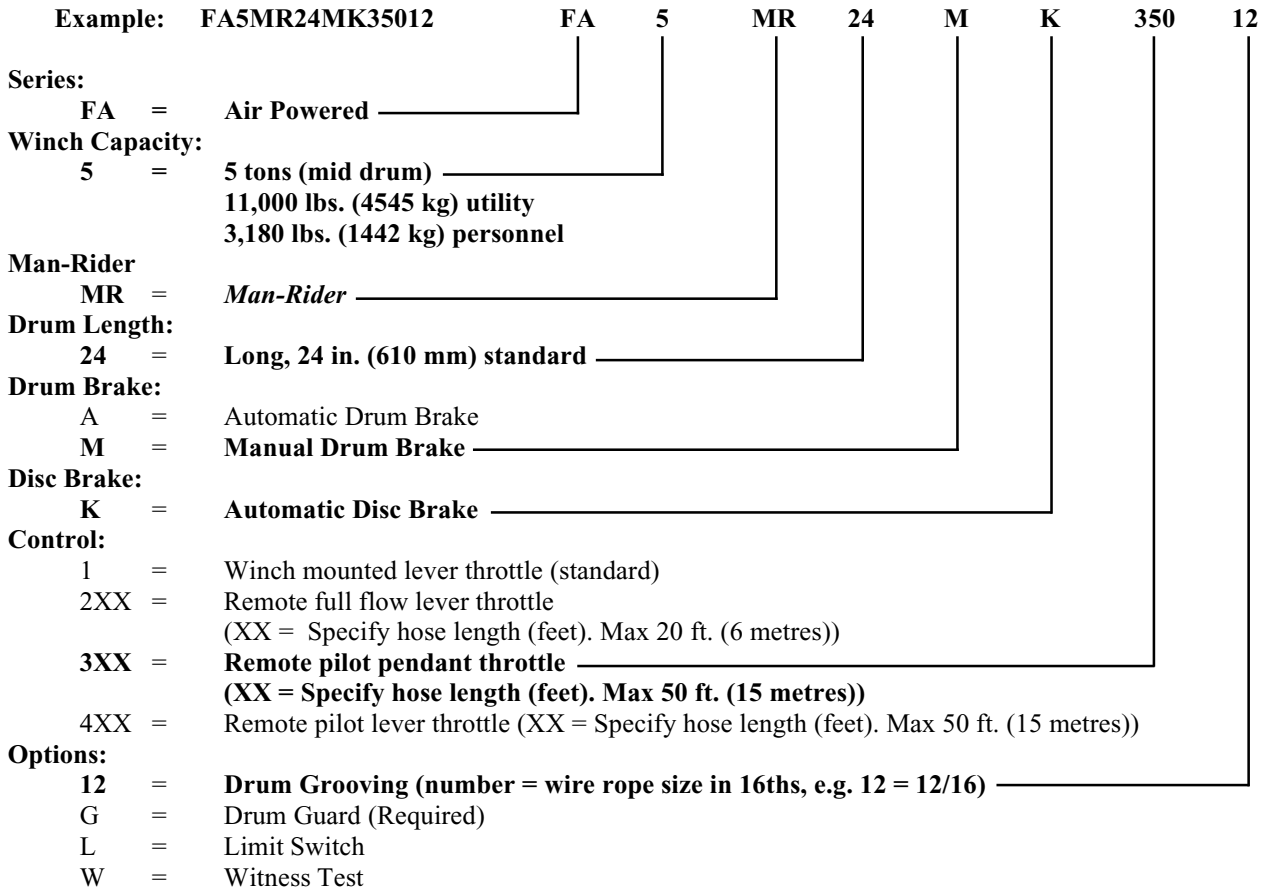


SPECIFICATIONS

General

To determine your basic winch configuration, refer to the nameplate for model number information.

Model Code Explanation



Air System

Rated operating pressure is 90 psig (6.3 bar) at 700 scfm (20 cu.m/min).

Rated Performance

(Based on rated air pressure and volume)

FA5MR Winch (18:1 wire rope to drum ratio)

 Full drum line pull 6,883 lb. (3,122 kg).

 Mid drum line speed 76 fpm (23 m/min).

Drum Wire Rope Storage Capacity * ft. (m)

FA5MR Winch with a 15 in. (381 mm) barrel diameter and 27 in. (659 mm) diameter drum flange.

* Based on standards which require the top layer to be 2-1/2 times the wire rope diameter below the drum flange diameter using 3/4 in. (19 mm) diameter EIPS 6 X 19 IWRC wire rope with a maximum breaking strength of 58,800 lb. (26,672 kg). Wire rope construction providing a non-rotating or anti-spin characteristic is recommended. Wire rope storage capacities shown may vary from those published elsewhere.

Drum Wire Rope Storage Capacity**

Drum Length		Wire Rope Capacity	
inches	mm	3/4 inch	19 mm
8	203	235	72
12	305	365	111
16	406	495	151
24	610	755	230

** Wire rope storage capacity based on wire rope top layer located a minimum of 2-1/2 times the wire rope diameter below drum flange.

OPERATION

The four most important aspects of winch operation are:

1. Follow all safety instructions when operating the winch.
2. Allow only people trained in safety and operation to operate the winch.
3. Subject each winch to a regular inspection and maintenance procedure.
4. Be aware of the winch capacity and weight of load at all times.

WARNING

• **To avoid damage to the rigging, the structure supporting the rigging and the winch, do not “two-block*” the end of the wire rope.**

1. Lifting and lowering speeds shall be operator controlled and as slow as feasible. **Ingersoll-Rand** recommends that they shall not exceed 100 feet (30 m) per minute. Any applicable codes and standards should be followed.
2. Personnel shall keep all parts of the body inside the platform during raising, lowering and positioning.
3. If the personnel platform is not landed on a solid surface, it shall be tied to the structure before personnel get off or on.
4. Tag lines shall be used where practical.
5. The winch operator shall remain at the controls at all times when handling personnel.
6. Handling of personnel shall be discontinued upon indication of any impending danger.

WARNING

• **Maintain at least 3 wraps of wire rope on the drum at all times.**

7. The platform shall be hoisted approximately one foot (30 cms) and inspected to assure that it is secure and properly balanced before personnel are allowed to occupy the platform. Before elevating or lowering personnel, the following conditions shall exist:
 - a. Hoist ropes shall be free of kinks.
 - b. Multiple part lines shall not be twisted around each other.
 - c. The primary point of wire rope attachment shall be centered over the platform so that the platform will not oscillate when lifted.
 - d. If there is a slack wire rope condition, the hoisting mechanisms shall be inspected to assure all ropes are properly seated on drums and in sheaves.
8. When personnel are suspended, a signalman must be provided unless voice communication equipment is utilized. Signals must be visible or audible to operator at all times.
9. Personnel occupying the personnel platform shall wear a body belt with lanyard appropriately attached

to the load block or to a structural member of the required strength within the platform.

10. Bridles and associated hardware for the personnel platform shall not be used for any other service.
11. Warning or limiting devices shall be installed to prevent two blocking, unless audible communication has been provided and one of the persons being lifted has been specifically assigned the task of warning of the approach of a two-block condition.

Emergency Lowering

For emergency lowering of personnel it is the customers responsibility to provide an air system containing a small reservoir near the winch that always remains charged.

Air from this reservoir can then be directed to the winch control valve. To pay-out wire rope at an average speed of approximately 50 ft/min (15 m/min) it will require an air consumption of approximately 500 cu. ft/min (14 cu. m/min) so the reservoir should be sized accordingly.

It may also be possible to lower the load by disconnecting the air inlet hose and moving the throttle to the pay-out (down) position. A minimum load of 800 lbs is required. Using this method a lowering speed of approximately 3 ft/min (1 m/min) can be accomplished.

Training Program

The employer shall provide and implement a training program for all supervisors and employees engaged in the operation of raising, lowering or suspending personnel platforms from a winch load line so that they are familiar with the requirements of this paragraph and are able to recognize the associated hazards and take appropriate measures.

Planning Meeting

A meeting attended by the winch operator, signalman, persons to be lifted and the person in charge of the task to be performed is required to be held to plan and review the procedures to be followed, including procedures for entering and leaving the personnel platform, the points at which employees will enter and leave the platform, signals, and the lift chart information.

NOTICE

• **This meeting shall be held prior to the beginning of personnel hoisting operations at each new work location and thereafter for any new employees assigned to the operation.**

*Two-blocking occurs when the winch wire rope is multi reeved using two separate sheave blocks which are allowed to contact each other during winch operation. When this contact occurs, extreme forces are exerted on the wire rope and sheave blocks which may result in equipment and or rigging failure.

INSPECTION AND TESTING

Records and Reports

An approved test and inspection record should be maintained for each winch, listing all points requiring test and inspection. These reports should be dated, signed by the person who performed the test or inspection, and kept on file where they are readily available to authorized personnel.

1. Winches which are used to raise, lower or suspend personnel platforms shall be inspected by the qualified person at the beginning of each shift and prior to hoisting employees on the personnel platform after the winch has been used for any material handling operation.
2. A test lift shall be made for each work location and at the beginning of each shift to insure that all systems and controls are functioning properly.
3. The winch shall not be used for hoisting personnel if the test results in instability or causes permanent deformation of any component.
4. A visual inspection of the winch, personnel platform and rigging shall be conducted immediately after the test lift.

WINCH PARTS

Refer to appropriate parts section in the **Model FA5** Winch Operation and Maintenance Manual Form MHD56037.

For *Man-Rider* winches, item number (88) nameplate part number 71106967 is replaced by a *Man-Rider* Nameplate part number 71108849.



- **The user and owner are cautioned to be sure to check all appropriate and applicable regulations regarding the lifting or handling of people with this winch before putting it into use.**

Refer all communications to the nearest **Ingersoll-Rand** Material Handling Office or Distributor.

For your convenience and future reference it is recommended that the following information be recorded.

Winch Model Number _____

Winch Serial Number _____

Date Purchased _____

INGERSOLL-RAND®		<i>Man Rider™</i>	
MATERIAL HANDLING		AIR WINCH	
MODEL NUMBER	_____		
SERIAL NUMBER	_____	SERIES	_____
MAN-LIFT SWL	_____ lb. at _____ fpm at _____ layer		
UTILITY SWL	_____ lb. at _____ fpm at _____ layer		
AIR PRESS	_____ psig	AIR FLOW	_____ scfm
ROPE Dia.	_____ in.		
DRUM SIZE in.	_____ Barrel Dia.	_____ Flange Dia.	_____ Lgth.
Seattle, Washington USA			71108849A

The nameplate is located on the winch outboard upright. Nameplate may be shown smaller than actual size.

United States Office Locations

For Order Entry and Order Status

**Ingersoll-Rand
Distribution Center**
P.O. Box 618
510 Hester Drive
White House, TN 37188
Phone: (615) 672-0321
Fax: (615) 672-0801

For Technical Support

**Ingersoll-Rand
Material Handling**
P.O. Box 24046
2724 Sixth Avenue South
Seattle, WA 98124-0046
Phone: (206) 624-0466
Fax: (206) 624-6265

Regional Sales Offices

Chicago, IL
888 Industrial Drive
Elmhurst, IL 60126
Phone: (708) 530-3800
Fax: (708) 530-3891

Detroit, MI
23192 Commerce Drive
Farmington Hills, MI 48335
Phone: (810) 476-6677
Fax: (810) 476-6670

Houston, TX
Suite 150
2500 East T.C. Jester
Houston, TX 77008
Phone: (713) 864-3700
Fax: (713) 864-2244

Los Angeles, CA
11909 E. Telegraph Road
Santa Fe Springs, CA 90670
Phone: (310) 948-4189
Fax: (310) 948-1828

Philadelphia, PA
P.O. Box 425
900 E. 8th Ave., Suite 103
King of Prussia, PA 19406
Phone: (610) 337-5930
Fax: (610) 337-5912

International Office Locations

Offices and distributors in principal cities throughout the world. Contact the nearest **Ingersoll-Rand** office for the name and address of the distributor in your country or write/fax to:

**Ingersoll-Rand
Material Handling**
P.O. Box 24046
2724 Sixth Avenue South
Seattle, WA 98124-0046
USA
Phone: (206) 624-0466
Fax: (206) 624-6265

**Canada
National Sales Office
Regional Warehouse
Toronto, Ontario**
51 Worcester Road
Rexdale, Ontario
M9W 4K2
Phone: (416) 675-5611
Fax: (416) 213-4510
Order Desk
Fax: (416) 213-4506

Regional Sales Offices

Calgary, Alberta
44 Harley Road S.E.
Calgary, Alberta
T2V 3K3
Phone: (403) 252-4180
Fax: (403) 252-4462

Edmonton, Alberta
1430 Weber Center
5555 Calgary Trail N.W.
Edmonton, Alberta
T6H 5G8
Phone: (403) 438-5039
Fax: (403) 437-3145

Montreal, Quebec
3501 St. Charles Blvd.
Kirkland, Quebec
H9H 4S3
Phone: (514) 695-9040
Fax: (514) 695-0963

British Columbia
201-6351 Westminster Hwy
Richmond, B. C.
V7C 5C7
Phone: (604) 278-0459
Fax: (604) 278-1254

Latin America Operations Ingersoll-Rand Production Equipment Group

730 N.W. 107 Avenue
Suite 300, Miami, FL, USA
33172-3107
Phone: (305) 559-0500
Fax: (305) 559-7505

Europe, Middle East and Africa

**Ingersoll-Rand
Material Handling
Douai Operations**
111, avenue Roger Salengro
59450 Sin Le Noble, France
Phone: (33) 27-93-08-08
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Asia Pacific Operations Ingersoll-Rand (Japan) Ltd.

Shin-Yokohama Square Bldg.
(5th Floor)
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Yokoham-shi, Kanagawa
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Moscow, Russia 123610