



Winches and High Capacity Hoists



Winches and High Capacity Hoists

Table of Contents

This catalog presents the products of the Winch and High Capacity Hoist business segment of IR.

By providing more focused attention to our products and their related markets, the improvements in these products, processes and services will continue to drive our pursuit of excellence. Our belief is that customers will respond by making IR their supplier and partner of choice.

These winch and hoist products are sold and serviced by a network of distributors around the world. We appreciate the opportunity to meet your material handling product needs.

1. Electric Winches

Electric Worm Gear Series

1500 and 2000 lb (682 and 909 kg) capacity 2

Electric Winches and Car Pullers

200 to 25000 lb (91 to 11364 kg) capacity 3

Fulcrum Winches

5300 to 50000 lb (2409 to 22680 kg) capacity 7

2. Air Winches

Selection Guide 12

Classic Air Winch Series

1000 and 2000 lb (454 and 909 kg) capacity 15

Liftstar™ and Pullstar™ Gear Motor Series

330 to 22000 lb (150 to 10000 kg) capacity 17

FA2B “Third Generation” Air Winch Series

4000 lb (1818 kg) capacity 21

FA2.5A/FA5A “Third Generation” Air Winch Series

5000 to 10000 lb (1818 to 2273 kg) capacity 24

Force 5™ Air Winch Series

4400 to 22000 lb (2000 to 10000 kg) capacity 27

Force 5™ “Guideline and Podline” Series

3400 and 10200 lb (1545 and 4636 kg) capacity 35

Accu-Spool™ Level Wind 36

Force 5™ “Offshore” Man Rider™ Series

330 to 6870 lb (150 to 3117 kg) capacity
meets ABS, DNV and LRS and CE requirements 37

“Third Generation” “Offshore” Gulf Man Rider™

2500 lb (1136 kg) capacity 42

Liftstar “Offshore” Man Rider™ Series

330 to 2200 lb (150 to 1000 kg) capacity 43

Force 5™ “Onshore” Man Rider™ Series

2200 and 4400 lb (1000 and 2000 kg) capacity
meets ANSI-ASME A10.22-1990 46

3. Natural Gas Powered Winches

1000 to 10000 lb (455 to 4545 kg) capacity 49

4. Hydraulic Winches

1000 to 100000 lb (455 to 45450 kg) capacity 50

5. High Capacity Chain Hoists

Hercu-Link™ Air Chain Hoist

5 to 100 metric ton capacity 53

Liftchain LCA Lube Free Hoist Series

1.5 to 100 metric ton capacity 59

Hercu-Link™ Electric Chain Hoist

5 to 50 metric ton capacity 68

6. Trolleys and Accessories

Man Rider™ Plain and Brake

1.5 to 6 metric ton capacity 74

Man Rider™ Piston Motor Driven and 4-Wheel Drive

1.5 to 6 metric ton capacity 75

Winch Construction Cages 76

Accu-Trol™ Pneumatic Pendant Control 77

Electric-Over-Air Pendant Control 78

Air line accessories 79

7. Tech Tips

Drum calculation program 80

Fleet angle, stall & line pull info, wire rope guide 81

S•COR•E information 82

I-Beam Specifications 83

English to metric conversion chart 84

Winch Check List 85

Hoist Check List 86

Notes 87

8. Hoist and Winch Limited Warranty 89



FM 53539

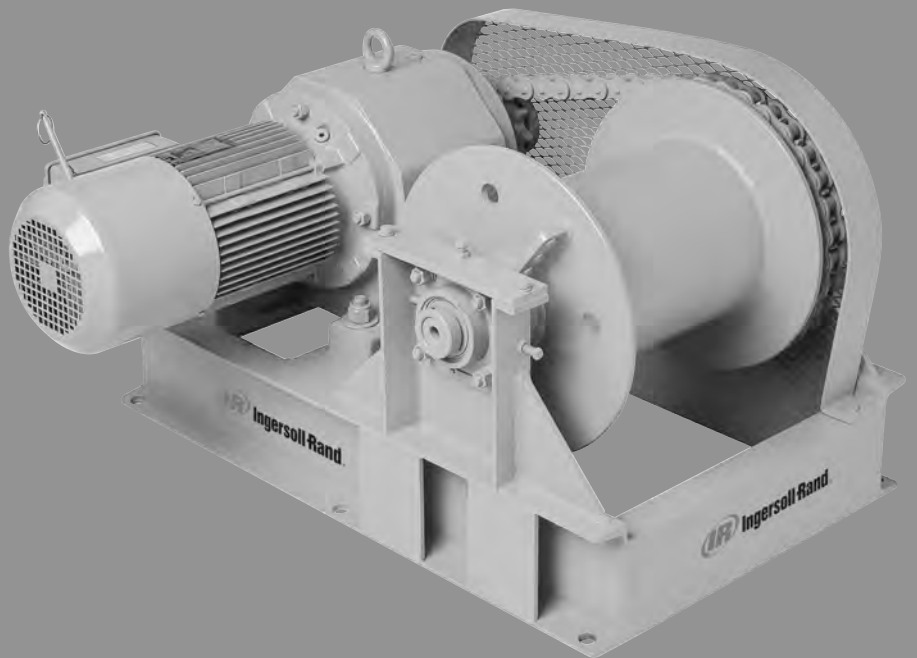
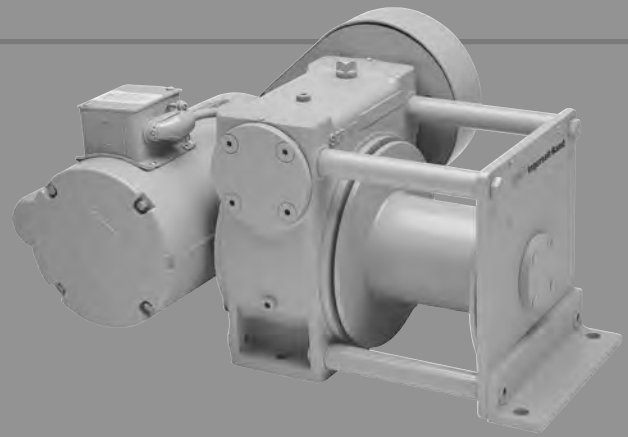


Electric Winches

The IR line of electric winches incorporates over 70 years of experience in solving the most challenging lifting, pulling and positioning applications in the world's toughest industries.

Why choose an IR electric winch?

- The high quality components in an IR electric winch deliver reliable performance and long lasting service.
- IR electric winches are designed to offer maximum environmental resistance.
- Each IR winch is provided with a totally enclosed fan cooled motor.
- The motor design of each IR winch incorporates class "B" electrical insulation with a minimum 1.0 service factor that ensures the motor's ability to deliver 100% of its rated horsepower throughout the duty cycle of that motor.
- The automatic braking system delivers positive load control for lifting and lowering.
- IR electric winches incorporate a flexible design that allows for horizontal, vertical or upside down positioning.



Electric Worm Gear Series

1500 and 2000 lb (682 and 909 kg) capacity



Standard features:

- Fully reversing, totally enclosed, non-ventilated (TENV) motors; 15 minute duty cycle for EBT1500; 10 for EBT2000
- Spring set, electromagnetically released automatic shoe style brake with manual release for emergency operation
- Bronze worm gear provides automatic self-locking for extra safety
- Fully enclosed anti-friction bearings
- Hand crank for emergency manual operation

- Aluminum frame and drum
- Belt driven

Options:

- Control package:
 - NEMA 4, watertight enclosure
 - NEMA 4, magnetic reversing starters
 - NEMA 3R or 4, pushbutton controls
 - NEMA 1 or 4, reversing drum switch
- Single or three phase motors
- 12" (305 mm) drum
- Free spool feature
- Chain drive
- Electronic overload protection



EBT2000B20-5

Specifications

| Model no. | Line pull 2nd layer | | Line speed 2nd layer | | Duty cycle min | hp | Maximum drum storage for rope diameter of | | | | | | | | Shipping weight | |
|---------------|---------------------|-----|----------------------|-------|----------------|-------|---|-------|------|-------|------|----|-----|----|-----------------|----|
| | lbs | kg | fpm | m/min | | | ft | 3/16" | 1/4" | 5/16" | 3/8" | ft | kg | | | |
| EBT1500A20-5 | 1500 | 682 | 20 | 6 | 15 | 1 1/2 | 338 | 103 | 200 | 61 | 122 | 37 | 87 | 27 | 129 | 59 |
| EBT1500A20-12 | 1500 | 682 | 20 | 6 | 15 | 1 1/2 | 811 | 247 | 600 | 183 | 292 | 89 | 208 | 63 | 145 | 66 |
| EBT2000B20-5 | 2000 | 909 | 20 | 6 | 10 | 1 1/2 | 338 | 103 | 200 | 61 | 122 | 37 | 87 | 27 | 129 | 59 |
| EBT2000B20-12 | 2000 | 909 | 20 | 6 | 10 | 1 1/2 | 811 | 247 | 600 | 83 | 292 | 89 | 208 | 63 | 145 | 66 |

Notes: For three phase, replace "A" (single) in model number with the letter "B". EBT2000 not available in single phase. A=115/230-1-60, B=230/460-3-60, re-connectable dual voltage. Amp draw at 230v: EBT1500A = 10.5 amps; EBT2000B = 5.0 amps

Line pull / lifting capacity at various rope layers

3/16" (5 mm) wire rope; maximum number of layers: 10

| Model number | Cap. layer no. 5 (mid-layer) | | Cap. layer no. 10 | |
|--------------|------------------------------|-----|-------------------|-----|
| | lbs | kg | lbs | kg |
| EBT1500A20-* | 1200 | 545 | 900 | 409 |
| EBT2000B20-* | 1600 | 727 | 1210 | 550 |

1/4" (6 mm) wire rope; maximum number of layers: 10

| Model number | lbs | kg | lbs | kg |
|--------------|--------------|------|------|-----|
| | EBT1500A20-* | 1140 | 518 | 810 |
| EBT2000B20-* | 1520 | 691 | 1080 | 491 |

5/16" (8 mm) wire rope; maximum number of layers: 6

| Model number | Cap. layer no. 3 (mid-layer) | | Cap. layer no. 6 | |
|--------------|------------------------------|-----|------------------|-----|
| | lbs | kg | lbs | kg |
| EBT1500A20-* | 1330 | 605 | 1000 | 455 |
| EBT2000B20-* | 1780 | 809 | 1330 | 605 |

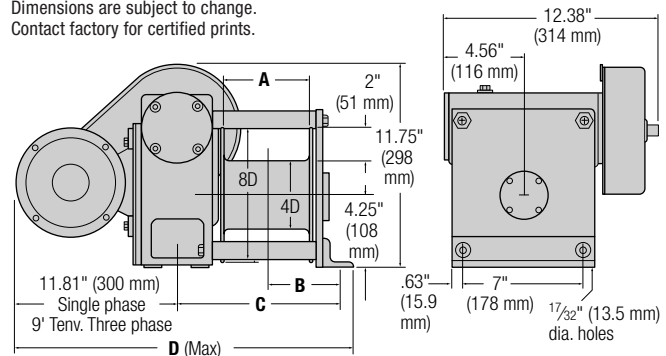
3/8" (10 mm) wire rope; maximum number of layers: 5

| Model number | lbs | kg | lbs | kg |
|--------------|--------------|------|------|------|
| | EBT1500A20-* | 1310 | 595 | 1040 |
| EBT2000B20-* | 1740 | 791 | 1390 | 632 |

Dimensions

| Model | Drum length A | | B | | C | | D | |
|---------------|---------------|-----|------|-----|-------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm |
| EBT1500A20-5 | 5 | 127 | 4.38 | 111 | 9.44 | 240 | 13.63 | 346 |
| EBT1500A20-12 | 12 | 305 | 7.88 | 200 | 16.44 | 418 | 20.63 | 524 |
| EBT2000B20-5 | 5 | 127 | 4.25 | 108 | 9.44 | 240 | 21.75 | 552 |
| EBT2000B20-12 | 12 | 305 | 7.75 | 197 | 16.44 | 418 | 28.75 | 730 |

Dimensions are subject to change. Contact factory for certified prints.



How to Order:

Complete the model below by adding the appropriate code for the desired voltage. Add option codes as required. Example: EBT1500B20-5-4C

| Series | Line pull 2nd layer (lbs) | Model single/three phase | Line speed 2nd layer (fpm) | Drum length (inches) | Voltage | Options (all factory installed) |
|--------|---------------------------|--------------------------|----------------------------|-------------------------|----------|--------------------------------------|
| EBT | 1500 | B | 20 | 5 | 4 | C |
| EBT | 1500 | A = Single phase | | 5 = 5 inches (127 mm) | 1 = 115V | C = Free spool ² |
| | 2000 | B = Three phase | | 12 = 12 inches (305 mm) | 2 = 230V | D1 = NEMA 1 drum switch |
| | | | | | 3 = 380V | D4 = NEMA 4 drum switch |
| | | | | | 4 = 460V | Q = Special paint; please specify |
| | | | | | 5 = 575V | R = Chain drive |
| | | | | | | S = Rotary limit switch ² |
| | | | | | | Y = Electronic overload ¹ |

Note: Magnetic reversing starter and pushbutton controls are sold separately.
 1 Requires the purchase of a magnetic reversing starter (see control options)
 2 Mutually exclusive-cannot provide both (C & S) options on same winch.

Electric Winches and Car Pullers

200 to 25000 lb (91 to 11364 kg) capacity

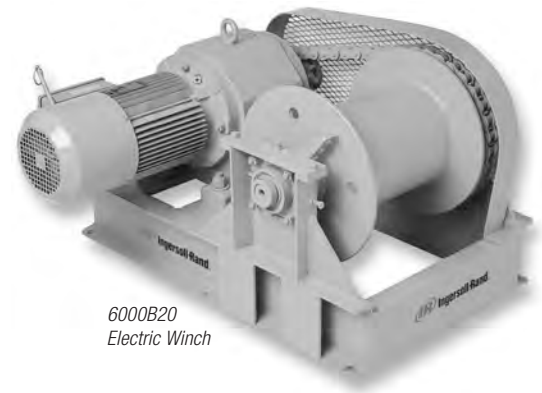
IR electric winches and car pullers offer maximum performance and reliability.

Standard features:

- Totally enclosed fan cooled (TEFC) motors are high torque design, Nema "B" class with an average of 280 percent starting torque. Rated for continuous duty.
- Winches utilize an automatic disc brake rated at 200% motor torque
- Structural steel frames allow flexibility in installation
- Car pullers have a lever operated, jaw clutch that allows for:
 - disengagement of the drum for free spooling of wire rope
 - bi-directional rail car pulling
- Car pullers have an adjustable drag brake to control drum spinning and cable over-run during free spooling operation

Options:

- Available in single or three phase motors (single phase through 3hp only)
- IEEE 45 marine grade motor (three phase only) and gear box available (specify by adding **M** to model; see **How to Order** information)
 - Three phase marine grade winch motors have a corrosion-resistant coating on motor windings to prevent corrosion due to condensation
 - Marine grade gear-boxes incorporate bronze filters and breather cover caps
- Longer or shorter drum sizes
- Drum divider flange and extra cable anchors
- Grooved drums



6000B20
Electric Winch

- Control packages consisting of:
 - NEMA 4 magnetic reversing starters (single and three phase)
 - NEMA 4 wall-mount pushbutton stations
 - NEMA 3R or NEMA 4 hand-held pushbutton pendants
 - NEMA 1 or NEMA 4 reversing drum switches (through 2hp only)
- Sandblast/carbozinc primer with a Marine 812 finish
- Heaters (in motor windings)
- Limit switch; 2 position; upper and lower; NEMA 4 class enclosure
- Adjustable torque limiting clutch
- Disengaging clutch
- Horizontal Load Reversing (HLR) designs for load movement in two directions. Includes grooved drum, two wire rope anchors and a drum length to spool all wire rope on the first layer
- Explosion-proof components
- Design and manufacturing expertise for special applications

Specifications

| Model single/ three phase | Rated capacity at 2nd layer ⁽¹⁾ | | Appx line spd/min | | | Starting line pull | | | | Running line pull | | | | Rec'd wire rope in. mm | Drum capacity ⁽²⁾ | | Shipping weight | | | | |
|---------------------------------|---|-------|----------------------|------|-------|--------------------|-------|------------------|-------|-------------------|-------|------------------|------|------------------------------|------------------------------|-----|--------------------|-----|-----|------|------|
| | lbs | kg | ft | m | hp | 1st layer lbs | kg | 4th layer lbs | kg | 1st layer lbs | kg | 4th layer lbs | kg | | 2nd layer ft | m | full drum ft | m | lbs | kg | |
| 200A40/B40 | 200 | 91 | 40 | 12.2 | 1/3 | 550 | 280 | 438 | 199 | 220 | 100 | 175 | 80 | 1/4 | 6 | 81 | 25 | 288 | 88 | 160 | 73 |
| 250A40/B40 | 250 | 114 | 20 | 6.1 | 1/4 | 688 | 313 | 538 | 245 | 275 | 125 | 215 | 98 | 1/4 | 6 | 81 | 25 | 288 | 88 | 160 | 73 |
| 500A20/B20 | 500 | 227 | 20 | 6.1 | 1/2 | 1375 | 625 | 1075 | 489 | 550 | 250 | 430 | 195 | 1/4 | 6 | 81 | 25 | 288 | 88 | 160 | 72 |
| 500A40/B40 | 500 | 227 | 40 | 12.2 | 3/4 | 1375 | 625 | 1075 | 489 | 550 | 250 | 430 | 195 | 1/4 | 6 | 81 | 25 | 288 | 88 | 160 | 72 |
| 700A40/B40 | 700 | 318 | 40 | 12.2 | 1 | 1938 | 881 | 1525 | 693 | 775 | 352 | 610 | 277 | 1/4 | 6 | 81 | 25 | 288 | 88 | 150 | 68 |
| 800A20/B20 | 800 | 364 | 20 | 6.1 | 2 | 2200 | 1000 | 1750 | 795 | 880 | 400 | 700 | 318 | 1/4 | 6 | 81 | 25 | 288 | 88 | 190 | 86 |
| 1300A20*/B20* ⁽³⁾ | 1300 | 591 | 20 | 6.1 | 1 | 3240 | 1473 | 2550 | 1159 | 1410 | 641 | 1110 | 505 | 5/16 | 8 | 120 | 37 | 605 | 184 | 370 | 168 |
| 1400A40*/B40* ⁽³⁾ | 1400 | 636 | 40 | 12.2 | 2 | 3540 | 1609 | 2780 | 1264 | 1540 | 700 | 1210 | 550 | 5/16 | 8 | 120 | 37 | 605 | 184 | 370 | 168 |
| 1600B90 | 1600 | 727 | 90 | 27.4 | 5 | 4400 | 2000 | 3350 | 1523 | 1760 | 800 | 1340 | 609 | 3/8 | 10 | 105 | 32 | 460 | 140 | 625 | 283 |
| 2000A20*/B20* ⁽³⁾ | 2000 | 909 | 20 | 6.1 | 1 1/2 | 4950 | 2250 | 3750 | 1705 | 2150 | 977 | 1675 | 761 | 3/8 | 10 | 105 | 32 | 460 | 140 | 375 | 170 |
| 2000A40*/B40* ⁽³⁾ | 2000 | 909 | 40 | 12.2 | 3 | 4970 | 2259 | 3770 | 1714 | 2160 | 982 | 1675 | 761 | 3/8 | 10 | 105 | 32 | 460 | 140 | 445 | 202 |
| 2000B60 | 2000 | 909 | 60 | 19.3 | 5 | 5400 | 2455 | 4175 | 1898 | 2160 | 982 | 1670 | 759 | 3/8 | 10 | 105 | 32 | 460 | 140 | 575 | 261 |
| 3000B40* ⁽³⁾ | 3000 | 1364 | 40 | 12.2 | 5 | 7600 | 3455 | 5900 | 2682 | 3300 | 1500 | 2560 | 1164 | 7/16 | 12 | 119 | 36 | 422 | 129 | 575 | 261 |
| 3500B80 | 3500 | 1591 | 80 | 24.4 | 12 | 9450 | 4295 | 7450 | 3386 | 3780 | 1718 | 2980 | 1355 | 7/16 | 12 | 125 | 38 | 875 | 267 | 690 | 313 |
| 4000A20*/B20* ⁽³⁾ | 4000 | 1818 | 20 | 6.1 | 3 | 9700 | 4409 | 7270 | 3305 | 4220 | 1918 | 3160 | 1436 | 1/2 | 13 | 107 | 33 | 309 | 94 | 525 | 239 |
| 4500B50* ⁽³⁾ | 4500 | 2045 | 50 | 15.2 | 7 1/2 | 11200 | 5091 | 8450 | 3841 | 4840 | 2200 | 3680 | 1673 | 1/2 | 13 | 107 | 33 | 309 | 94 | 630 | 286 |
| 6000B20* ⁽³⁾ | 6000 | 2727 | 20 | 6.1 | 5 | 15400 | 7000 | 11600 | 5273 | 6700 | 3045 | 5040 | 2291 | 5/8 | 16 | 146 | 45 | 422 | 129 | 930 | 422 |
| 6000B40* ⁽³⁾ | 6000 | 2727 | 40 | 12.2 | 7 1/2 | 17200 | 7818 | 12950 | 5886 | 7480 | 3400 | 5630 | 2559 | 5/8 | 16 | 146 | 45 | 422 | 129 | 950 | 431 |
| 10000B20* | 10000 | 4545 | 20 | 6.1 | 7 1/2 | 29670 | 13486 | 22200 | 10091 | 12900 | 5864 | 9650 | 4386 | 3/4 | 19 | 146 | 45 | 323 | 98 | 1525 | 692 |
| 10000B40* ⁽³⁾ | 10000 | 4545 | 40 | 12.2 | 15 | 27150 | 12341 | 20350 | 9250 | 11800 | 5364 | 8850 | 4023 | 3/4 | 19 | 146 | 45 | 323 | 98 | 1740 | 789 |
| 15000B20* ⁽³⁾ | 15000 | 6818 | 20 | 6.1 | 12 | 37500 | 17045 | 30000 | 13636 | 17200 | 7818 | 13000 | 5909 | 1 | 25 | 230 | 70 | 600 | 183 | 2750 | 1247 |
| 25000B25* ⁽³⁾ | 25000 | 11363 | 25 | 7.6 | 20 | 62800 | 28545 | 48300 | 21955 | 27300 | 12409 | 21000 | 9545 | 1 1/4 | 32 | 240 | 73 | 860 | 262 | 3550 | 1614 |

*Chain drive from motor drum. Design factor 6:1 or more on chain at rated line pulls.

(1) Capacities rated at specified voltage with single line on second layer on drum, providing 5:1 design factor. Starting line pulls for reference only.

(2) Drum capacities shown represent tightly spooled wire rope. Recommended drum working capacity is 80% of value shown.

(3) Also available as car puller models. Add **CP** to model number when ordering. Example: **CP1300B20**

Electric Winches and Car Pullers

200 to 25000 lb (91 to 11364 kg) capacity



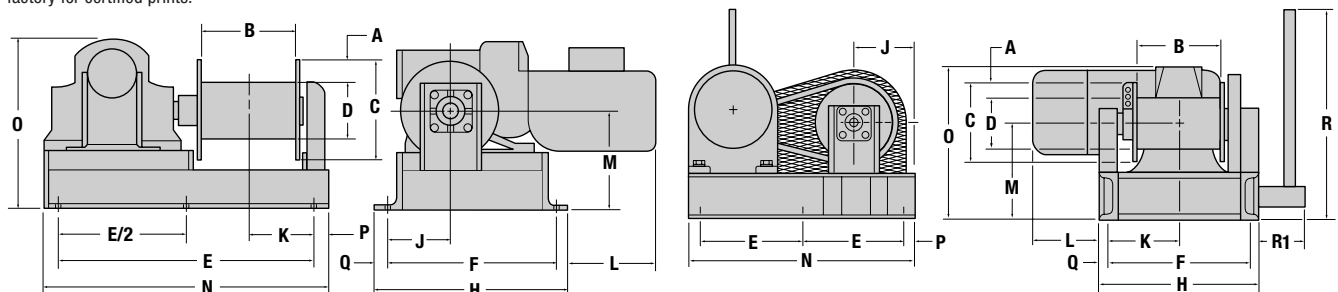
Dimensions

| Model Single | Three phase | Dimensions in inches | | | | | | | | | | | | | | | | |
|--------------|-------------|----------------------|-------|----|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|----|----------------|
| | | A | B | C | D | E | F | H | J | K | L | M | N | O | P | Q | R | R ₁ |
| 200A40 | 200B40 | 1.75 | 8 | 8 | 4.50 | 18 | 13.50 | 15.50 | 6 | 5.75 | 7.50 | 7.50 | 20 | 13.63 | 1 | 1 | - | - |
| 250A20 | 250B20 | 1.75 | 8 | 8 | 4.50 | 8 | 13.50 | 15.50 | 6 | 5.75 | 7.50 | 7.50 | 20 | 13.63 | 1 | 1 | - | - |
| 500A20 | 500B20 | 1.75 | 8 | 8 | 4.50 | 18 | 13.50 | 15.50 | 6 | 5.75 | 9.31 | 7.50 | 20 | 14.63 | 1 | 1 | - | - |
| 500A40 | 500B40 | 1.75 | 8 | 8 | 4.50 | 18 | 13.50 | 15.50 | 6 | 5.75 | 9.31 | 7.50 | 20 | 14.63 | 1 | 1 | - | - |
| 700A40 | 700B40 | 1.75 | 8 | 8 | 4.50 | 18 | 13.50 | 15.50 | 6 | 5.75 | 9.31 | 7.50 | 20 | 14.63 | 1 | 1 | - | - |
| 800A20 | 800B20 | 1.75 | 8 | 8 | 4.50 | 18 | 13.50 | 15.50 | 6 | 5.75 | 9.31 | 7.50 | 20 | 14.63 | 1 | 1 | - | - |
| 1300A20 | 1300B20 | 2.69 | 12 | 12 | 6.63 | 12.63 | 18.50 | 20 | 8 | 9 | 5 | 9.50 | 27.25 | 16.75 | 1 | 0.75 | 44 | 2.50 |
| 1400A40 | 1400B40 | 2.69 | 12 | 12 | 6.63 | 12.63 | 18.50 | 20 | 8 | 9 | 8 | 9.50 | 27.25 | 16.75 | 1 | 0.75 | 44 | 2.50 |
| | 1600B90 | 2.69 | 12 | 12 | 6.63 | 28 | 18 | 20 | 7 | 8.13 | 15.81 | 9.13 | 30 | 17.25 | 1 | 1 | - | - |
| 2000A20 | 2000B20 | 2.69 | 12 | 12 | 6.63 | 12.63 | 18.50 | 20 | 8 | 9 | 6.25 | 9.50 | 27.25 | 16.75 | 1 | 0.75 | 44 | 2.50 |
| 2000A40 | 2000B40 | 2.69 | 12 | 12 | 6.63 | 12.63 | 18.50 | 20 | 8 | 9 | 6.25 | 9.50 | 27.25 | 16.75 | 1 | 0.75 | 44 | 2.50 |
| | 2000B60 | 2.69 | 12 | 12 | 6.63 | 28 | 18 | 20 | 7 | 8.13 | 15.81 | 9.13 | 30 | 17.25 | 1 | 1 | - | - |
| | 3000B40 | 2.69 | 12 | 14 | 8.63 | 15.50 | 20 | 21.50 | 9 | 9.50 | 9.50 | 12.50 | 33 | 20.25 | 1 | 0.75 | 51 | 4 |
| | 3500B80 | 4.69 | 12.75 | 18 | 8.63 | 32 | 20 | 22 | 10 | 8.19 | 30.81 | 13.50 | 34.50 | 20.25 | 1 | 1 | - | - |
| 4000A20 | 4000B20 | 2.69 | 12 | 14 | 8.63 | 15.50 | 20 | 21.50 | 9 | 9.50 | 9 1/2 | 12.50 | 33 | 23.81 | 1 | 0.75 | 51 | 4 |
| | 4500B50 | 2.69 | 12 | 14 | 8.63 | 15.50 | 20 | 21.50 | 9 | 9.50 | 14 | 12.50 | 33 | 21.38 | 1 | 0.75 | 51 | 4 |
| | 6000B20 | 3.63 | 16 | 18 | 10.75 | 18 | 25 | 27.25 | 11.50 | 12 | 8.50 | 13.50 | 38 | 25.50 | 1 | 1.13 | 58 | 6 |
| | 6000B40 | 3.63 | 16 | 18 | 10.75 | 18 | 25 | 27.25 | 11.50 | 12 | 11.63 | 13.50 | 38 | 22.75 | 1 | 1.13 | 58 | 6 |
| | 10000B20 | 3.63 | 16 | 20 | 12.75 | 22.50 | 28 | 31 | 12.63 | 13.19 | 8.88 | 14.75 | 47 | 28.25 | 1 | 1.50 | 58 | 6 |
| | 10000B40 | 3.63 | 16 | 20 | 12.75 | 22.50 | 28 | 31 | 12.63 | 13.19 | 11 | 14.75 | 47 | 26.25 | 1 | 1.50 | 58 | 6 |
| | 15000B20 | 6 | 24 | 30 | 18 | 3 at 18 | 34 | 37 | 19.88 | 15.06 | 7.25 | 20 | 60.75 | 39 | 1.88 | 1.50 | 58 | 6 |
| | 25000B25 | 8 | 24 | 40 | 24 | 4 at 17 | 37 | 40 | 22 | 15.50 | 15.75 | 26.25 | 72 | 48.25 | 2 | 1.50 | 58 | 6 |

Dimensions in millimeters

| | | | | | | | | | | | | | | | | | | |
|---------|----------|------|-----|------|-----|----------|-----|------|-----|-----|-----|-----|------|------|------|-----|------|-----|
| 200A40 | 200B40 | 1118 | 203 | 203 | 114 | 457 | 343 | 394 | 152 | 146 | 191 | 191 | 508 | 346 | 635 | 635 | - | - |
| 250A20 | 250B20 | 1118 | 203 | 203 | 114 | 203 | 343 | 394 | 152 | 146 | 191 | 191 | 508 | 346 | 635 | 635 | - | - |
| 500A20 | 500B20 | 1118 | 203 | 203 | 114 | 457 | 343 | 394 | 152 | 146 | 237 | 191 | 508 | 371 | 635 | 635 | - | - |
| 500A40 | 500B40 | 1118 | 203 | 203 | 114 | 457 | 343 | 394 | 152 | 146 | 237 | 191 | 508 | 371 | 635 | 635 | - | - |
| 700A40 | 700B40 | 1118 | 203 | 203 | 114 | 457 | 343 | 394 | 152 | 146 | 237 | 191 | 508 | 371 | 635 | 635 | - | - |
| 800A20 | 800B20 | 1118 | 203 | 203 | 114 | 457 | 343 | 394 | 152 | 146 | 237 | 191 | 508 | 371 | 635 | 635 | - | - |
| 1300A20 | 1300B20 | 68 | 305 | 305 | 168 | 321 | 470 | 508 | 203 | 229 | 127 | 241 | 692 | 425 | 635 | 19 | 1118 | 64 |
| 1400A40 | 1400B40 | 68 | 305 | 305 | 168 | 321 | 470 | 508 | 203 | 229 | 203 | 241 | 692 | 425 | 635 | 19 | 1118 | 64 |
| | 1600B90 | 68 | 305 | 305 | 168 | 711 | 457 | 508 | 178 | 206 | 402 | 232 | 762 | 438 | 635 | 635 | - | - |
| 2000A20 | 2000B20 | 68 | 305 | 305 | 168 | 321 | 470 | 508 | 203 | 229 | 159 | 241 | 692 | 425 | 635 | 19 | 1118 | 64 |
| 2000A40 | 2000B40 | 68 | 305 | 305 | 168 | 321 | 470 | 508 | 203 | 229 | 159 | 241 | 692 | 425 | 635 | 19 | 1118 | 64 |
| | 2000B60 | 68 | 305 | 305 | 168 | 711 | 457 | 508 | 178 | 206 | 402 | 232 | 762 | 438 | 635 | 635 | - | - |
| | 3000B40 | 68 | 305 | 356 | 219 | 394 | 508 | 546 | 229 | 241 | 241 | 318 | 838 | 514 | 635 | 19 | 1295 | 102 |
| | 3500B80 | 119 | 324 | 457 | 219 | 813 | 508 | 559 | 254 | 208 | 783 | 343 | 876 | 514 | 635 | 635 | - | - |
| 4000A20 | 4000B20 | 68 | 305 | 356 | 219 | 394 | 508 | 546 | 229 | 241 | 241 | 318 | 838 | 605 | 635 | 19 | 1295 | 102 |
| | 4500B50 | 68 | 305 | 356 | 219 | 394 | 508 | 546 | 229 | 241 | 356 | 318 | 838 | 543 | 635 | 19 | 1295 | 102 |
| | 6000B20 | 92 | 406 | 457 | 273 | 457 | 635 | 692 | 292 | 305 | 216 | 343 | 965 | 648 | 635 | 29 | 1473 | 152 |
| | 6000B40 | 92 | 406 | 457 | 273 | 457 | 635 | 546 | 292 | 305 | 295 | 343 | 965 | 578 | 635 | 29 | 1473 | 152 |
| | 10000B20 | 92 | 406 | 508 | 324 | 572 | 711 | 787 | 321 | 335 | 225 | 375 | 1194 | 718 | 635 | 38 | 1473 | 152 |
| | 10000B40 | 92 | 406 | 508 | 324 | 572 | 711 | 787 | 321 | 335 | 279 | 375 | 1194 | 667 | 635 | 38 | 1473 | 152 |
| | 15000B20 | 152 | 610 | 762 | 457 | 3 at 457 | 864 | 940 | 505 | 383 | 184 | 508 | 1543 | 991 | 48 | 38 | 1473 | 152 |
| | 25000B25 | 203 | 610 | 1016 | 610 | 4 at 432 | 940 | 1016 | 559 | 394 | 400 | 667 | 1829 | 1226 | 1295 | 38 | 1473 | 152 |

Bolt sizes: 200A40 through 800B20: 1/2" (13 mm); 1300A20 through 4500B50: 5/8" (16 mm); 6000B20 through 25000B25: 3/4" (19 mm). Dimensions are subject to change. Contact factory for certified prints.



Direct drive model – for model numbers 200A40/B40, 250A40/B40, 500A20/B20, 500A40/B40, 700A40/B40, 800A40/B40, 1600B90, 2000B60, and 3500B80
 Dimensions are subject to change. Contact factory for certified prints

Chain drive from motor drum; design factor 6:1 or more – for model numbers 1300A20/B20, 1400A40/B40, 2000A20/B20, 2000A40/B40, 3000B40, 4000A20/B20, 4500B50, 6000B20, 6000B40, 10000B20, 10000B40, 15000B20, and 25000B25

Electric Winches and Car Pullers
200 to 25000 lb (91 to 11364 kg) capacity



| Winch options | Code | Description |
|----------------------------|-------------|--|
| Drum divider | D | One steel flange is welded to the center of the drum. Includes second cable anchor. Standard is based on right lay rope for overwound rotation. |
| Grooved drum | G | Standard drum lengths only. Grooving is left hand spiral for overwind rope take-off. Recommended rope is right lay. Engineering review is required for units specified with longer drums and/or divider flanges. |
| Heater in motor | H | Recommended for extreme high or low temperature conditions, to eliminate condensation in the motor enclosure. |
| Marine duty | M | <p>Marine duty motor and gearboxes. Marine duty 3 phase electric winches are designed to meet the Institute of Electrical and Electronic Engineers (IEEE) specification number 45 for shipboard severe duty and washdown environments.</p> <p>To meet the requirements of such harsh operating conditions, all marine duty motors are built with cast iron end shields and special stators constructed of "Silafront-13," an aluminum-silicon alloy resistant to corrosive elements. All motor windings are treated with "Polane," a unique polyurethane coating which prevents corrosion due to condensation. Marine duty winch motors also incorporate class "F" electrical insulation and have a 1.15 service factor capable of delivering, if needed, 115% of the motor's rated horsepower during the entire duty cycle of that motor.</p> <p>Should the user so desire, each marine duty winch motor can be furnished with a 1/8" NPT drain plug rather than the standard 1/8" drain hole to prevent water damage should the motor be submerged. <i>This special option must be requested at the time of order.</i></p> <p>All marine duty 3 phase winches are supplied with gearboxes that incorporate protected breathers to equalize gearbox pressure without the risk of exposure to corrosive elements.</p> <p><i>Marine grade motor features apply to 3 phase motors only. Single phase motor manufacturers' interpretation of marine grade requirements vary. Therefore, motor features may vary. Please advise single phase motor requirements before ordering.</i></p> |
| Marine 812 finish | P | An excellent corrosion, chemical, and abrasive resistant alkyd enamel finish over a rust inhibitive primer. |
| Rotary limit switch | S | Rotary switch counts drum revolutions. Different ratios are available depending on actual rope travel. Specify rope travel distance between upper and lower limits so we may select the proper ratio. Please understand that rope spooling and rope stretch must be taken into account and final adjustments will be necessary. |
| Torque limiter | T | Adjustable clutch acts to limit pull by slipping when load exceeds setting. Mounted on the outboard side of drum. |
| Sandblast/carbozinc | Z | The best corrosion resistant primer available. Sandblast to "white" metal followed by an inorganic zinc primer. Marine 812 finish (P) recommended. Note: motors are chemically cleaned, not sandblasted. |

Electric Winches and Car Pullers

200 to 25000 lb (91 to 11364 kg) capacity



How to Order Classic Electric Winches and Car Puller Models

Specify complete model code as shown below. Electric winches and car pullers exclude winch control and starter options.

Control options: A control package consists of magnetic reversing starter and controls. Starter and control options may be ordered in two ways:

1. When specified in the model code, starters and controls will be mounted on the winch and tested. Installation charge additional.
2. By specifying part numbers, controls may be ordered separately for customer installation by a qualified electrician. Starter and control option packages consist of the following items:
 - A. Magnetic reversing starter, sized according to winch hp and voltage. Magnetic reversing starters with internal 110 volt control transformer are now standard. These starters are available in single and three phase models and are intended for use with either two motion control stations or pendants used in remote control applications.
 - B. Remote pendant or wall mount pushbutton control (requires the use of a magnetic reversing starter)
 - C. Reversing drum switch to be used when winch power supply is:
 - Single phase: 115 volt to 1.5 hp, 230 volt to 2 hp. Three phase: 230/460 volt to 2 hp.

To use a reversing drum switch, a magnetic reversing starter is not required. Drum switches should only be mounted directly to the winch itself. Drum switches when used in this manner have a control voltage equal to the operating voltage of the winch. Drum switches are intended for mounting on the unit itself and must have their enclosures grounded to the electrical system ground.

Example: CP2000B40M2-12-8G-M4P3-50

| Series | Line pull ⁽¹⁾ 2nd layer (lbs) | Phase ⁽²⁾ | Speed (fpm) | Motor type | Voltage | - | Drum length (in.) | - | Wire rope size | Winch options | - | Starter options | Control options |
|--|--|--|-----------------|---|-----------------|---|---|-----------------|---|------------------|---|--------------------|--------------------|
| CP | 2000 | B | 40 | M | 2 | - | 12 | - | 8 | G | - | M4 | P3-50 |
| CP = Carpuller model prefix | | A = Single phase B = Three phase | | 1 = 115-1-60 2 = 230-1-60 230-3-60 3 = 380-3-50 4 = 460-3-60 5 = 575-3-60 6 = 208-3-60 7 = 415-3-50 | | Wire rope in sixteenths (e.g. $\frac{8}{16} = \frac{1}{2}$ inch) | | | M4 = Mag. rev. starter NEMA 4 | | D1 = Drum switch NEMA 1 D4 = Drum switch NEMA 4 P3-XX = Pushbutton pendant NEMA 3R P4-XX = Pushbutton pendant NEMA 4 W4 ⁽³⁾ = Wall mount pushbutton station NEMA 4 XX = Specify hand held pendent control cord (ft) | | |
| (-) = Std. Totally Enclosed Fan Cooled | | M = Marine (three phase only) grade motor and gearbox | | D = Drum divider flange G = Grooved drum H = Heater in motor P = Marine 812 finish Q = Special paint; please specify R = Press roller S = Rotary limit switch T = Torque limiter clutch Y = Electronic overload* Z = Sandblast/carbozinc primer | | | * Requires the purchase of a magnetic reversing starter (see control options) | | | | | | |
| Drum extensions (see dim. B on previous page) Drum width in. (mm) | | | | | | | | | | | | | |
| Model | | 8 (203) | 12 (305) | 16 (406) | 20 (508) | 24 (610) | 30 (762) | 36 (915) | 42 (1067) | | | | |
| 200 | - 800 | Standard | yes | yes | yes | no | no | no | no | | | | |
| 1300 | - 4500 | no | Standard | yes | yes | yes | no | no | no | | | | |
| 6000 | - 10000 | no | no | Standard | yes | yes | yes | no | no | | | | |
| 15000 | - 25000 | no | no | no | no | Standard | yes | yes | yes | | | | |

Drum extensions over standard require engineering approval to confirm design acceptability. For delivery on units with non-standard drum lengths please contact Customer Service.

- (1) Please refer to specification chart for line pull information.
- (2) Please specify voltages when ordering "A" models 115/230-1-60; "B" models 230/460-3-60, and for 380-3-50, 415-3-50 and 575-3-60.
- (3) Wall mount pushbutton controls will be shipped loose for customer installation. The National Electrical Code requires wall mount control stations to be installed with conduit enclosed wiring.

NEW!

Fulcrum Winch Series

5300 to 45600 lb (2409 to 20727 kg) capacity



The new Fulcrum “E” series electric winches are designed to meet or exceed North American ANSI / ASME B30.7 standards while providing optimum performance in a rugged, safe, and versatile package.

IR has combined over 70 years of electric winch manufacturing experience with input from a diverse group of endusers, riggers, and regulatory officials, to determine the design criteria for the new Fulcrum series of winches. Based on industry requirements to maximize safety, versatility, and reliability the Fulcrum “E” series is available in two basic configurations: “EP” for pulling applications, and “EL” for lifting applications. An extensive array of options further enhances the Fulcrum’s flexibility while its 5:1 design factor and **two year warranty** is your assurance of safe, dependable operation for the most demanding applications worldwide.



EP45600 (20 ton Electric Fulcrum Winch)

Standard features

- Meets or exceeds ANSI / ASME B30.7
- Lifting models with 18:1 D/d ratio (per ANSI / ASME B30.7)
- Pulling models with 15:1 D/d ratio (per ANSI / ASME B30.7)
- 5:1 design factor
- Winch motors are high torque design, rated for continuous duty totally enclosed fan cooled (TEFC)
- All worldwide voltages
- Wide selection of standard gear ratios and line speeds
- Automatic motor disc brake
- Fully enclosed, 95% efficient, planetary gear boxes
- Underwound or overwound cable take-offs
- Variable mounting configurations (inverted, side, etc.)
- **Two year warranty**
- Hydraulic and Man Rider™ models available on request

Specifications:

for pulling winches at 15:1 D/d ratio

| Frame | Rope size | | Winch 1st layer rated load | | Drum diameter | | Flange diameter | | Std. drum length | | No. of layers | Capacity std. drum | | Standard min. drum length | | Standard max. ¹ drum length | |
|-------|-----------|------|----------------------------|-------|---------------|-----|-----------------|------|------------------|-----|---------------|--------------------|-----|---------------------------|-----|--|-------------------|
| | in. | mm | lbs | kg | in. | mm | in. | mm | in. | mm | | ft | m | in. | mm | in. | mm |
| 3 | 1/2 | 13 | 5300 | 2409 | 8.625 | 219 | 17 | 432 | 18 | 457 | 7 | 768 | 234 | 18 | 457 | 42 | 1067 ¹ |
| 3 | 9/16 | 14 | 6700 | 3045 | 8.625 | 219 | 17 | 432 | 18 | 457 | 6 | 577 | 176 | 18 | 457 | 42 | 1067 ¹ |
| 4 | 5/8 | 16 | 8200 | 3727 | 10.750 | 273 | 22 | 559 | 24 | 610 | 8 | 1216 | 371 | 18 | 457 | 48 | 1219 |
| 4 | 3/4 | 19 | 11700 | 5318 | 10.750 | 273 | 22 | 559 | 24 | 610 | 7 | 896 | 273 | 18 | 457 | 48 | 1219 |
| 5 | 7/8 | 22 | 15900 | 7227 | 14.000 | 356 | 28 | 711 | 24 | 610 | 7 | 962 | 293 | 18 | 457 | 48 | 1219 |
| 5 | 1 | 25.4 | 20600 | 9364 | 14.000 | 356 | 28 | 711 | 24 | 610 | 6 | 713 | 217 | 18 | 457 | 48 | 1219 |
| 6 | 1 1/8 | 29 | 26000 | 11818 | 16.000 | 406 | 34 | 864 | 24 | 610 | 7 | 877 | 267 | 18 | 457 | 48 | 1219 |
| 7 | 1 1/4 | 32 | 31900 | 14500 | 20.000 | 508 | 38 | 965 | 24 | 610 | 7 | 946 | 288 | 18 | 457 | 48 | 1219 |
| 7 | 1 3/8 | 35 | 38400 | 17455 | 20.000 | 508 | 38 | 965 | 24 | 610 | 6 | 721 | 220 | 18 | 457 | 48 | 1219 |
| 8 | 1 1/2 | 38 | 45600 | 20727 | 24.000 | 610 | 45 | 1143 | 30 | 762 | 6 | 974 | 297 | 24 | 610 | 60 | 1524 |

for lifting winches at 18:1 D/d ratio

| Frame | Rope size | | Winch 1st layer rated load | | Drum diameter | | Flange diameter | | Std. drum length | | No. of layers | Capacity std. drum | | Standard min. drum length | | Standard max. drum length | |
|-------|-----------|------|----------------------------|-------|---------------|-----|-----------------|------|------------------|-----|---------------|--------------------|-----|---------------------------|-----|---------------------------|-------------------|
| | in. | mm | lbs | kg | in. | mm | in. | mm | in. | mm | | ft | m | in. | mm | in. | mm |
| 3 | 1/2 | 13 | 5300 | 2409 | 8.625 | 219 | 17 | 432 | 18 | 457 | 7 | 768 | 234 | 18 | 457 | 42 | 1067 ¹ |
| 3 | 9/16 | 14 | 6000 | 2722 | 9.750 | 248 | 17 | 432 | 18 | 457 | 5 | 505 | 154 | 18 | 457 | 42 | 1067 ¹ |
| 4 | 5/8 | 16 | 8200 | 3727 | 10.750 | 273 | 22 | 559 | 24 | 610 | 8 | 1216 | 371 | 18 | 457 | 48 | 1219 |
| 4 | 3/4 | 19 | 9200 | 4181 | 14.000 | 356 | 22 | 559 | 24 | 610 | 4 | 548 | 167 | 18 | 457 | 48 | 1219 |
| 5 | 7/8 | 22 | 14100 | 6409 | 16.000 | 406 | 28 | 711 | 24 | 610 | 6 | 873 | 266 | 18 | 457 | 48 | 1219 |
| 5 | 1 | 25.4 | 16400 | 7455 | 18.000 | 457 | 28 | 711 | 24 | 610 | 4 | 526 | 160 | 18 | 457 | 48 | 1219 |
| 6 | 1 1/8 | 29 | 21300 | 9682 | 20.000 | 508 | 34 | 864 | 24 | 610 | 6 | 845 | 258 | 18 | 457 | 48 | 1219 |
| 7 | 1 1/4 | 32 | 27000 | 12273 | 24.000 | 610 | 38 | 965 | 24 | 610 | 5 | 715 | 218 | 18 | 457 | 48 | 1219 |
| 7 | 1 3/8 | 35 | 32600 | 14818 | 24.000 | 610 | 38 | 965 | 24 | 610 | 4 | 505 | 154 | 18 | 457 | 48 | 1219 |
| 8 | 1 1/2 | 38 | 42400 | 19273 | 26.000 | 660 | 45 | 1143 | 30 | 762 | 6 | 1033 | 315 | 24 | 610 | 60 | 1524 |

¹ For drum layers longer than standard contact Technical Sales



Fulcrum Winch

200 to 50000 lb (91 to 22680 kg) capacity



Specifications:

| Rope size in. | mm | Pulling winches, 1st layer rated load | | | | Lifting winches, 1st layer rated load | | | |
|------------------|----|--|------|-----|-------|--|------|-----|-------|
| | | lbs | kg | fpm | m/min | lbs | kg | fpm | m/min |
| Frame 3 | | | | | | | | | |
| 1/2 | 13 | 5300 | 2409 | 18 | 5.5 | 5300 | 2409 | 18 | 5.5 |
| 1/2 | 13 | 5300 | 2409 | 28 | 8.5 | 5300 | 2409 | 28 | 8.5 |
| 1/2 | 13 | 5300 | 2409 | 39 | 11.9 | 5300 | 2409 | 39 | 11.9 |
| 1/2 | 13 | 5300 | 2409 | 59 | 18.0 | 5300 | 2409 | 59 | 18.0 |
| 1/2 | 13 | 5300 | 2409 | 86 | 26.2 | 5300 | 2409 | 86 | 26.2 |
| 1/2 | 13 | 5300 | 2409 | 101 | 30.8 | 5300 | 2409 | 101 | 30.8 |
| 9/16 | 14 | 6700 | 3045 | 23 | 7.0 | 6000 | 2727 | 25 | 7.6 |
| 9/16 | 14 | 6700 | 3045 | 34 | 10.4 | 6000 | 2727 | 38 | 11.6 |
| 9/16 | 14 | 6700 | 3045 | 48 | 14.6 | 6000 | 2727 | 53 | 16.2 |
| 9/16 | 14 | 6700 | 3045 | 69 | 21.0 | 6000 | 2727 | 77 | 23.5 |
| 9/16 | 14 | 6700 | 3045 | 87 | 26.5 | 6000 | 2727 | 97 | 29.6 |
| 9/16 | 14 | 6700 | 3045 | 102 | 31.1 | 6000 | 2727 | 114 | 34.7 |
| Frame 4 | | | | | | | | | |
| 5/8 | 16 | 8200 | 3727 | 11 | 3.4 | 8200 | 3727 | 11 | 3.4 |
| 5/8 | 16 | 8200 | 3727 | 19 | 5.8 | 8200 | 3727 | 19 | 5.8 |
| 5/8 | 16 | 8200 | 3727 | 24 | 7.3 | 8200 | 3727 | 24 | 7.3 |
| 5/8 | 16 | 8200 | 3727 | 38 | 11.6 | 8200 | 3727 | 38 | 11.6 |
| 5/8 | 16 | 8200 | 3727 | 54 | 16.5 | 8200 | 3727 | 54 | 16.5 |
| 5/8 | 16 | 8200 | 3727 | 79 | 24.1 | 8200 | 3727 | 79 | 24.1 |
| 5/8 | 16 | 8200 | 3727 | 99 | 30.2 | 8200 | 3727 | 99 | 30.2 |
| 5/8 | 16 | 8200 | 3727 | 117 | 35.7 | 8200 | 3727 | 117 | 35.7 |
| 3/4 | 19 | 11700 | 5318 | 14 | 4.3 | 9200 | 4181 | 18 | 5.5 |
| 3/4 | 19 | 11700 | 5318 | 20 | 6.1 | 9200 | 4181 | 25 | 7.6 |
| 3/4 | 19 | 11700 | 5318 | 25 | 7.6 | 9200 | 4181 | 31 | 9.5 |
| 3/4 | 19 | 11700 | 5318 | 46 | 14.0 | 9200 | 4181 | 58 | 17.7 |
| 3/4 | 19 | 11700 | 5318 | 55 | 16.8 | 9200 | 4181 | 70 | 21.3 |
| 3/4 | 19 | 11700 | 5318 | 64 | 19.5 | 9200 | 4181 | 81 | 24.7 |
| 3/4 | 19 | 11700 | 5318 | 81 | 24.7 | 9200 | 4181 | 103 | 31.4 |
| 3/4 | 19 | 11700 | 5318 | 101 | 30.8 | 9200 | 4181 | 128 | 39.0 |

Specifications:

| Rope size in. | mm | Pulling winches, 1st layer rated load | | | | Lifting winches, 1st layer rated load | | | |
|------------------|------|--|-------|-----|-------|--|-------|-----|-------|
| | | lbs | kg | fpm | m/min | lbs | kg | fpm | m/min |
| Frame 5 | | | | | | | | | |
| 7/8 | 22 | 15900 | 7227 | 21 | 6.4 | 14100 | 6409 | 23 | 7.0 |
| 7/8 | 22 | 15900 | 7227 | 29 | 8.8 | 14100 | 6409 | 32 | 10.0 |
| 7/8 | 22 | 15900 | 7227 | 36 | 11.0 | 14100 | 6409 | 40 | 12.2 |
| 7/8 | 22 | 15900 | 7227 | 82 | 25.0 | 14100 | 6409 | 92 | 28.0 |
| 1 | 25.4 | 20600 | 9364 | 21 | 6.4 | 16400 | 7455 | 26 | 7.9 |
| 1 | 25.4 | 20600 | 9364 | 25 | 7.6 | 16400 | 7455 | 31 | 9.5 |
| 1 | 25.4 | 20600 | 9364 | 29 | 8.8 | 16400 | 7455 | 36 | 11.0 |
| 1 | 25.4 | 20600 | 9364 | 36 | 11.0 | 16400 | 7455 | 46 | 14.0 |
| Frame 6 | | | | | | | | | |
| 1 1/8 | 29 | 26000 | 11818 | 18 | 5.5 | 21300 | 9682 | 22 | 6.7 |
| 1 1/8 | 29 | 26000 | 11818 | 26 | 7.9 | 21300 | 9682 | 32 | 10.0 |
| 1 1/8 | 29 | 26000 | 11818 | 38 | 11.6 | 21300 | 9682 | 47 | 14.3 |
| 1 1/8 | 29 | 26000 | 11818 | 75 | 22.9 | 21300 | 9682 | 91 | 27.7 |
| 1 1/8 | 29 | 26000 | 11818 | 90 | 27.4 | 21300 | 9682 | 110 | 33.5 |
| Frame 7 | | | | | | | | | |
| 1 1/4 | 32 | 31900 | 14500 | 21 | 6.4 | 27000 | 12273 | 24 | 7.3 |
| 1 1/4 | 32 | 31900 | 14500 | 26 | 7.9 | 27000 | 12273 | 31 | 9.5 |
| 1 1/4 | 32 | 31900 | 14500 | 34 | 10.4 | 27000 | 12273 | 40 | 12.2 |
| 1 1/4 | 32 | 31900 | 14500 | 43 | 13.1 | 27000 | 12273 | 51 | 15.5 |
| 1 1/4 | 32 | 31900 | 14500 | 50 | 15.2 | 27000 | 12273 | 59 | 18.0 |
| 1 3/8 | 35 | 38400 | 17454 | 22 | 6.7 | 32600 | 14818 | 25 | 7.6 |
| 1 3/8 | 35 | 38400 | 17454 | 25 | 7.6 | 32600 | 14818 | 29 | 8.8 |
| 1 3/8 | 35 | 38400 | 17454 | 35 | 10.7 | 32600 | 14818 | 41 | 12.5 |
| 1 3/8 | 35 | 38400 | 17454 | 43 | 13.1 | 32600 | 14818 | 51 | 15.5 |
| 1 3/8 | 35 | 38400 | 17454 | 51 | 15.5 | 32600 | 14818 | 60 | 18.3 |
| Frame 8 | | | | | | | | | |
| 1 1/2 | 38 | 45600 | 20727 | 21 | 6.4 | 42400 | 19273 | 23 | 7.0 |
| 1 1/2 | 38 | 45600 | 20727 | 31 | 9.5 | 42400 | 19273 | 33 | 10.1 |
| 1 1/2 | 38 | 45600 | 20727 | 37 | 11.3 | 42400 | 19273 | 39 | 11.9 |
| 1 1/2 | 38 | 45600 | 20727 | 47 | 14.3 | 42400 | 19273 | 50 | 15.2 |

Drum Lengths

| Models | | Standard Drum Length | | Optional Drum length | | | |
|----------------|---------|-------------------------|-----|-------------------------|------|-----|------|
| Pulling | Lifting | in. | mm | in. | mm | in. | mm |
| Frame 3 | | | | | | | |
| EP5300 | EL5300 | 18 | 457 | 30 | 762 | 42 | 1069 |
| EP6700 | EL6000 | 18 | 457 | 30 | 762 | 42 | 1069 |
| Frame 4 | | | | | | | |
| EP8200 | EL8200 | 24 | 610 | 36 | 914 | 48 | 1219 |
| EP11700 | EL9200 | 24 | 610 | 36 | 914 | 48 | 1219 |
| Frame 5 | | | | | | | |
| EP15900 | EL14100 | 24 | 610 | 36 | 914 | 48 | 1219 |
| EP20600 | EL16400 | 24 | 610 | 36 | 914 | 48 | 1219 |
| Frame 6 | | | | | | | |
| EP26000 | EL21300 | 24 | 610 | 36 | 914 | 48 | 1219 |
| Frame 7 | | | | | | | |
| EP31900 | EL27000 | 24 | 610 | 36 | 914 | 48 | 1219 |
| EP38400 | EL32600 | 24 | 610 | 36 | 914 | 48 | 1219 |
| Frame 8 | | | | | | | |
| EP45600 | EL42400 | 30 | 762 | 42 | 1069 | 54 | 1372 |



Fulcrum Winch

200 to 50000 lb (91 to 22680 kg) capacity



Dimensions ¹

Pulling

| Frame | Model | A | | B | | C | | D | | E | | F | | G | | H | | J | |
|-------|---------------|-----|-----|-------|-----|------|-----|-----|------|------|------|-------|------|-----|----|------|-----|------|-----|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 3 | EP5300-18-18 | 18 | 457 | 8.63 | 219 | 4.19 | 106 | 17 | 432 | 23.5 | 597 | 29.54 | 737 | 0.5 | 13 | 23 | 584 | 15 | 381 |
| 3 | EP6700-23-18 | 18 | 457 | 8.63 | 219 | 4.19 | 106 | 17 | 432 | 23.5 | 597 | 29.54 | 737 | 0.5 | 13 | 23 | 584 | 15 | 381 |
| 4 | EP8200-19-24 | 24 | 610 | 10.75 | 273 | 5.63 | 143 | 22 | 559 | 28.5 | 711 | 40.54 | 1030 | 0.5 | 13 | 27.5 | 699 | 17.5 | 445 |
| 4 | EP11700-14-24 | 24 | 610 | 10.75 | 273 | 5.63 | 143 | 22 | 559 | 28.5 | 711 | 40.54 | 1030 | 0.5 | 13 | 27.5 | 699 | 17.5 | 445 |
| 5 | EP15900-21-24 | 24 | 610 | 14 | 357 | 7 | 178 | 28 | 711 | 33.5 | 851 | 42.5 | 1080 | 0.5 | 13 | 34.5 | 876 | 22.5 | 572 |
| 5 | EP20600-21-24 | 24 | 610 | 14 | 357 | 7 | 178 | 28 | 711 | 33.5 | 851 | 42.5 | 1080 | 0.5 | 13 | 34.5 | 876 | 22.5 | 572 |
| 6 | EP26000-18-24 | 24 | 610 | 16 | 406 | 9 | 229 | 34 | 864 | 42.5 | 1080 | 44.82 | 1138 | 0.5 | 13 | 38.5 | 978 | 25.5 | 648 |
| 7 | EP31900-21-24 | 24 | 610 | 20 | 508 | 9 | 229 | 38 | 965 | - | - | - | - | - | - | - | - | - | |
| 7 | EP38400-25-24 | 24 | 610 | 20 | 508 | 9 | 229 | 38 | 965 | - | - | - | - | - | - | - | - | - | |
| 8 | EP45600-21-30 | 30 | 762 | 24 | 610 | 10.5 | 267 | 45 | 1143 | - | - | - | - | - | - | - | - | - | |

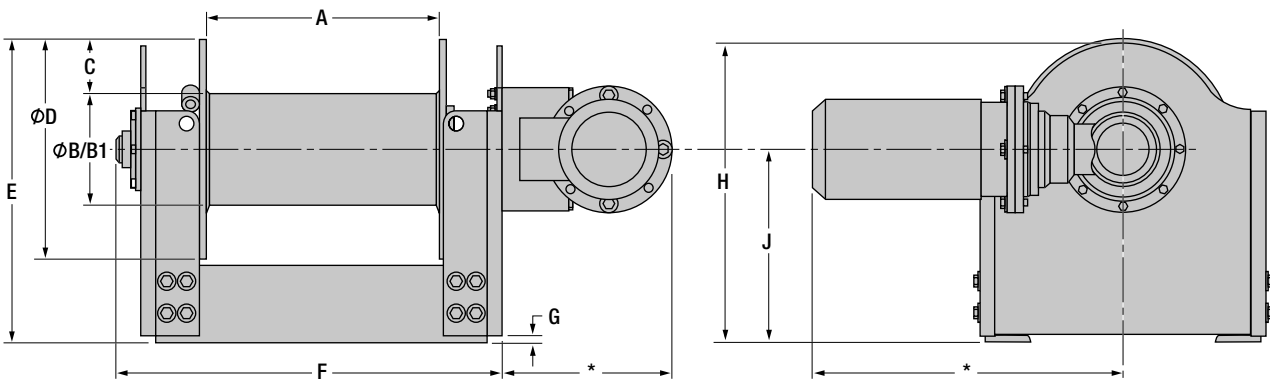
¹ Dimensions are subject to change. Contact technical sales for certified prints.
Dimensions are for standard base models only.

Dimensions ¹

Lifting

| Frame | Model | A | | B1 | | C | | D | | E | | F | | G | | H | | J | |
|-------|---------------|-----|-----|-------|-----|------|-----|-----|------|------|------|-------|------|-----|----|------|-----|------|-----|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 3 | EL5300-18-18 | 18 | 457 | 8.63 | 219 | 4.19 | 106 | 17 | 432 | 23.5 | 597 | 29.54 | 737 | 0.5 | 13 | 23 | 584 | 15 | 381 |
| 3 | EL6700-23-18 | 18 | 457 | 9.75 | 248 | 3.63 | 92 | 17 | 432 | 23.5 | 597 | 29.54 | 737 | 0.5 | 13 | 23 | 584 | 15 | 381 |
| 4 | EL8200-19-24 | 24 | 610 | 10.75 | 273 | 5.63 | 143 | 22 | 559 | 28.5 | 711 | 40.54 | 1030 | 0.5 | 13 | 27.5 | 699 | 17.5 | 445 |
| 4 | EL9200-18-24 | 24 | 610 | 14 | 357 | 4 | 102 | 22 | 559 | 28.5 | 711 | 40.54 | 1030 | 0.5 | 13 | 27.5 | 699 | 17.5 | 445 |
| 5 | EL14100-23-24 | 24 | 610 | 16 | 406 | 6 | 152 | 28 | 711 | 33.5 | 851 | 42.5 | 1080 | 0.5 | 13 | 34.5 | 876 | 22.5 | 572 |
| 5 | EL16400-26-24 | 24 | 610 | 18 | 457 | 5 | 127 | 28 | 711 | 33.5 | 851 | 42.5 | 1080 | 0.5 | 13 | 34.5 | 876 | 22.5 | 572 |
| 6 | EL21300-22-24 | 24 | 610 | 20 | 508 | 7 | 179 | 34 | 864 | 42.5 | 1080 | 44.82 | 1138 | 0.5 | 13 | 38.5 | 978 | 25.5 | 648 |
| 7 | EL27000-24-24 | 24 | 610 | 24 | 610 | 7 | 179 | 38 | 965 | - | - | - | - | - | - | - | - | - | |
| 7 | EL32600-29-24 | 24 | 610 | 24 | 610 | 7 | 179 | 38 | 965 | - | - | - | - | - | - | - | - | - | |
| 8 | EL42400-23-30 | 30 | 762 | 26 | 660 | 9.5 | 241 | 45 | 1143 | - | - | - | - | - | - | - | - | - | |

¹ Dimensions are subject to change. Contact technical sales for certified prints.
Dimensions are for standard base models only.





Fulcrum Winch

200 to 50000 lb (91 to 22680 kg) capacity



How to Order:

Specify the complete model as shown. **Example: EL5300-28-18-8G-M4-P4-20** is an electric powered lifting winch with a 5300 lb capacity, a 28 fpm line speed, an 18 inch drum, 460-3-60 volt, with grooved drum, NEMA 4 starter and pushbutton, and 20 feet of control cord.

| Series | Application | Capacity | Line speed | Drum length | Voltage | Winch options | Starter/drives | Control station | Cord length (ft) |
|--|--|-------------------|-------------------|-----------------------------------|---|--|--|---|------------------|
| E | L | 5300 | 28 | 18 | 8 | G | M4 | P4 | 20 |
| E = Electric H = Hydraulic ³ | L = Lifting P = Pulling MR = Electric Manrider ³ | (See table below) | (See table below) | (See std. drum width chart below) | 1 = 115-1-60 2 = 230-1-60 3 = 208-3-60 4 = 230-3-60 5 = 380-3-50 6 = 400-3-50 7 = 415-3-50 8 = 460-3-60 9 = 575-3-60 0 = Used w/hydraulic and air units | A = Air operated drum brake C = Special motor per customer specs D = Drum divider flange; X = no. of dividers F = Free-spooling clutch G = Grooved drum ⁽³⁾ H = Horizontal load reversing drum ⁽⁴⁾ J = Space heater in motor K = Hand crank for emergency manual operation L = Drum locking pin M = Marine duty, IEEEE45 motor N = Mirror image unit P = Marine 812 finish Q = Special paint; please specify R = Press roller on drum S = NEMA 4 upper & lower, rotary limit switch T = Dual speed motor U = Manual level wind W = Slack rope detector X = Drum guard Y = Electronic overload limiter Z = Sandblast / carbozinc | M4 = NEMA 4 starter M4X = NEMA 4X starter V = Variable frequency drive. Customer to specify control requirements. X = Explosion-proof starter. Customer to specify class, division and group. | D1 = Drum switch NEMA 1 D4 = Drum switch NEMA 4 E = Explosion-proof controller. Customer to specify class, division and group. P4 = Pushbutton NEMA 4 P4X = Pushbutton NEMA 4X W1 = Wall mount pushbutton station, NEMA 1 W4 = Wall mount pushbutton station, NEMA 4 | |

First layer capacities

| Frame | Pulling capacities | Line speeds / fpm ⁽¹⁾ | Lifting capacities | Line speeds / fpm ⁽¹⁾ | Std. drum width ⁽²⁾ |
|----------|--------------------------------|----------------------------------|--------------------------------|----------------------------------|--------------------------------|
| 3 | EP 5300 lbs / 2409 kg | 18, 28, 39, 59, 86, 101 | EL 5300 lbs / 2409 kg | 18, 28, 39, 59, 86, 101 | 18 in. / 457 mm |
| 3 | EP 6700 lbs / 3045 kg | 23, 34, 48, 69, 87, 102 | EL 6000 lbs / 2727 kg | 25, 38, 53, 77, 97, 114 | 18 in. / 457 mm |
| 4 | EP 8200 lbs / 3727 kg | 11, 19, 24, 38, 54, 79, 99, 117 | EL 8200 lbs / 3727 kg | 11, 19, 24, 38, 54, 79, 99, 117 | 24 in. / 610 mm |
| 4 | EP 11700 lbs / 5318 kg | 14, 20, 25, 46, 55, 64, 81, 101 | EL 9200 lbs / 4181 kg | 18, 25, 31, 58, 70, 81, 103, 128 | 24 in. / 610 mm |
| 5 | EP 15900 lbs / 7227 kg | 21, 29, 36, 82 | EL 14100 lbs / 6409 kg | 23, 32, 40, 92 | 24 in. / 610 mm |
| 5 | EP 20600 lbs / 9364 kg | 21, 25, 29, 36 | EL 16400 lbs / 7455 kg | 26, 31, 36, 46 | 24 in. / 610 mm |
| 6 | EP 26000 lbs / 11818 kg | 18, 26, 38, 75, 90 | EL 21300 lbs / 9682 kg | 22, 32, 47, 91, 110 | 24 in. / 610 mm |
| 7 | EP 31900 lbs / 14500 kg | 21, 26, 34, 43, 50 | EL 27000 lbs / 12273 kg | 24, 31, 40, 51, 59 | 24 in. / 610 mm |
| 7 | EP 38400 lbs / 17455 kg | 22, 25, 35, 43, 51 | EL 32600 lbs / 14818 kg | 25, 29, 41, 51, 60 | 24 in. / 610 mm |
| 8 | EP 45600 lbs / 20727 kg | 21, 31, 37, 47 | EL 42400 lbs / 19273 kg | 23, 33, 39, 50 | 30 in. / 762 mm |

(1) First layer line speed

(2) Other drum lengths available

(3) Grooving is based on left hand spiral for overwind take-off. The size of the grooving is based on the recommended wire rope size specified for each frame and is selected to meet ANSI / ASME B30.7 recommendations. If different size grooving is required it must be specified by enduser at time of order.

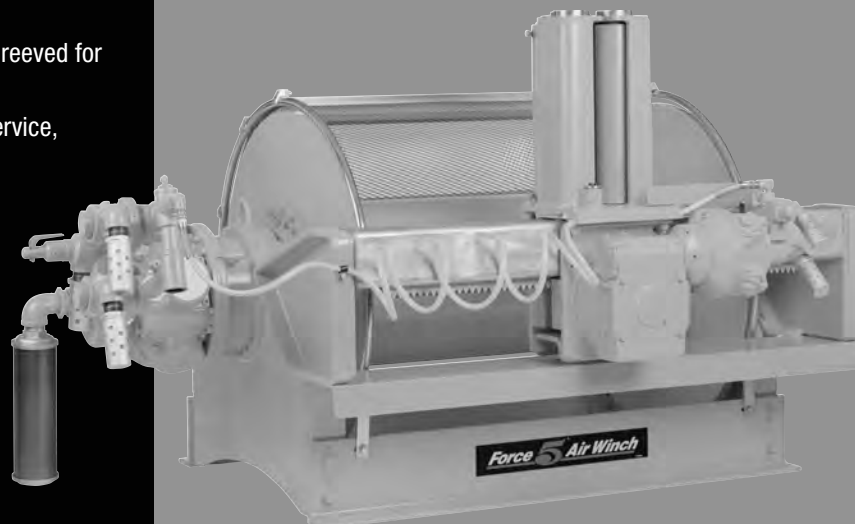
(4) Wire rope size and cable take-offs must be specified at time of an order.

Air Winches

The IR line of air winches incorporates the best ideas and innovations of Beebe International, Samia of France and the original IR line of products. The combined experience of these companies adds up to over 200 years of solving the most challenging lifting, pulling and positioning applications in the world's toughest industries.

Why choose an air winch?

- Air winches are simple, rugged, reliable sources of enormous lifting and pulling power for their weight.
- Air motors cannot burn out; they can be stalled all day without damage, making air winches ideal for tensioning applications, such as holding a barge in place. And when air motors are stalled, they use no air!
- Air winches have exceptional load "spotting" ability.
- Speed control is variable from a slow creep to full speed.
- Air winches are well-suited for applications in hot, cold, dusty, dirty, explosive and wet conditions. They pose no electric shock hazard, require no special enclosures, and there are no high-pressure hydraulic lines to leak.
- Air winches have an unlimited duty cycle.
- Air winches can be easily reeved for increased capacity.
- Air winches are easy to service, maintain, and repair.



IR offers the broadest selection of air winches in the world, including utility and personnel lifting winches. Here's how IR air winches are rated:

■ **Utility rated air winches**

- Used for lifting, pulling or tensioning of materials, up to the rated capacity of the winch.
- Meet ANSI / ASME B30.7
- Rated with a 5:1 design factor for lifting and lowering loads and a 3.5:1 design factor for pulling loads
- Versions available to meet the European Machinery Directives
- Clutches for free spooling wire rope are allowed in the U.S.A. for both lifting and pulling; in Europe, they are allowed for pulling applications only .
- Applications include construction, mining, offshore oil, heavy industrial, refineries, utilities, shipbuilding, petrochemical
- Not to be used for lifting people

■ **Offshore Man Rider™**

- Offshore Man Riders have Type Approval and can be certified by one or more of the following independent third party organizations for the offshore oil and drilling industry:
 - Det Norske Veritas (DNV)
 - American Bureau of Shipping (ABS)
 - Lloyd's Register of Shipping (LRS)
- Offshore Man Riders have been designed according to the regulations of one or more of the following regulatory bodies:
 - Norwegian Petroleum Directorate (NPD)
 - Norwegian Maritime Directorate (NMD)
 - UK HSE
- Type Approved for lifting and lowering of people with 8:1 design factor
- Force 5 models are dual rated for utility lifting at 5:1 design factor
- Dual brakes: one automatic and one manual or dual automatic

-E = Compliance with the European Machinery Directive. Includes as standard on utility rated winches:

- 1 Main air supply shutoff located at the winch for throttle control models and on the pendant for remote control models.
- 2 Overload device for lift rated winches
- 3 Drum guard
- 4 Muffler
- 5 CE documentation

■ **"Gulf" Man Rider™**

The Gulf Man Rider was specifically designed to meet the requirements for a personnel lifting winch for use on offshore rigs in the Gulf of Mexico. Additionally, the design has been type approved by DNV. The Gulf Man Rider is backed by IR's experience and comes with a Det Norske Veritas (DNV) witness to our load test.

■ **Onshore Man Rider™**

- Onshore Man Riders have been designed to meet the requirements of ANSI / ASME A10.22-1990 for "Rope Guided and Nonguided Worker's Hoists - Safety Requirements".
 - Addresses OSHA requirements where applicable
 - Typical applications include tower and chimney construction and maintenance, dams, mines, building construction

- Upper/lower limit switches, speed indicator, battery pack and dual brakes—one automatic and one manual—are standard
- Dual rated for personnel and material lifting—8:1 design factor for personnel; 5:1 design factor for materials
 - Line pulls are rated at top layer and line speeds at mid layer.
 - Third party Type Approved by ABS

Man Rider air winch series quick selection guide

| Man Rider series | Rated line capacity/ lifting at top layer | | | | Rated line speed/ lifting at top layer | | | |
|------------------|--|----|----------------|----|---|-------|----------------|-------|
| | personnel 8:1 DF | | utility 5:1 DF | | personnel 8:1 DF | | utility 5:1 DF | |
| | lbs | kg | lbs | kg | fpm | m/min | fpm | m/min |

Meets Offshore requirements for one or more of the following: ABS, DNV, LRS, NMD, NPD and UK HSE

| | | | | | | | | |
|--------------------------|------|------|-------|------|-----|----|-----|-----|
| FA150KGMR (-E) | 330 | 150 | n/a | n/a | 95 | 29 | n/a | n/a |
| LS150RLP (-E) | 330 | 150 | – | – | 98 | 30 | – | – |
| LS500RLP (-E) | 1100 | 500 | – | – | 85 | 26 | – | – |
| LS1000RLP (-E) | 2200 | 1000 | – | – | 85 | 26 | – | – |
| FA2BMR (1) | 2500 | 1136 | 4000 | 1818 | 168 | 51 | 118 | 36 |
| FA2MR (-E) | 3180 | 1445 | 4400 | 2000 | 64 | 20 | 55 | 17 |
| FA2.5AMR (-E) (1) | 3125 | 1420 | 5000 | 2273 | 173 | 53 | 135 | 41 |
| FA2.5MR (-E) | 3180 | 1445 | 5000 | 2273 | 118 | 36 | 140 | 43 |
| FA5AMR (-E) (1) | 6250 | 2841 | 10000 | 4545 | 102 | 31 | 62 | 19 |
| FA5MR (-E) | 6875 | 3125 | 11000 | 5000 | 77 | 23 | 65 | 20 |

Meets onshore requirements of ANSI / ASME A10.22-1990

| | | | | | | | | |
|-----------------|------|------|------|------|-----|----|-----|----|
| FA2MRA | 2200 | 1000 | 3520 | 1600 | 91 | 28 | 66 | 20 |
| FA2.5MRA | 2200 | 1000 | 3520 | 1600 | 195 | 59 | 157 | 48 |
| FA5MRA | 4400 | 2000 | 7040 | 3200 | 87 | 26 | 74 | 22 |

(1) Rated at mid layer

■ **Piston motor or gear motor?**

IR air winches have a worldwide reputation for being rugged, durable and dependable in a vast array of applications. To meet the various needs of our customers, we offer two powerful yet different motors to power the winch.

- **Piston motors**—used in the Third Generation Force 5 Series, original Force 5 Series and IR Classics. Piston motors have great lugging characteristics—that is, they allow an operator to slowly move a load at an inching crawl for excellent spotting. Relatively high speeds are attained for moving loads long distances. Piston motors have internal "splash" lubrication and are fairly tolerant of "dirty" air. The new MP150 used on the FA2B air winch is lube-free!
- **Gear motors**—used exclusively in the Pullstar™ (PS) and Liftstar™ (LS) Series. Gear motors have only two moving parts, which reduces the complexity of motor maintenance, and are "lube-free". The high torque feature provides outstanding steady slow speed characteristics. High speeds are not obtained with this type of motor. Gear motors will tolerate the wet and dirty air supply typically found in mines, foundries, steel mills, etc.

Air Winch Selection Guide

330 to 22000 lb (150 to 10000 kg) capacity

Utility air winch quick selection guide

(See specific series for complete technical information)

LIFTING: ANSI/ASME B30.16 allowable rated line pulls (5:1 design factor)

| Utility models | First layer | | | | Mid Layer | | | | Top Layer | | | | Average flow required | |
|----------------|-------------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|-------|-------|-----------------------|----------------------|
| | Capacity | | Speed | | Capacity | | Speed | | Capacity | | Speed | | cfm | m ³ /min. |
| | lbs | kg | fpm | m/min | lbs | kg | fpm | m/min | lbs | kg | fpm | m/min | | |
| LS150R | 455 | 207 | 103 | 31 | 380 | 173 | 115 | 35 | 330 | 150 | 138 | 42 | 78 | 2.2 |
| LS300R | 840 | 382 | 56 | 17 | 740 | 336 | 63 | 19 | 660 | 300 | 69 | 21 | 78 | 2.2 |
| BU7A | 1200 | 545 | 36 | 11 | 1000 | 454 | 43 | 13 | 1000 | 454 | 39 | 12 | 50 | 1.4 |
| LS600R | 1680 | 764 | 26 | 8 | 1480 | 673 | 30 | 9 | 1325 | 600 | 34 | 10 | 78 | 2.2 |
| EU, EUL | 2100 | 955 | 62 | 19 | 2000 | 909 | 68 | 21 | 2000 | 909 | 64 | 20 | 100 | 2.8 |
| LS1500R (1) | 4000 | 1818 | 19 | 6 | 3600 | 1636 | 21 | 6 | 3300 | 1500 | 23 | 7 | 125 | 3.5 |
| FA2B | 5000 | 2273 | 79 | 24 | 4000 | 1818 | 96 | 29 | 3200 | 1455 | 122 | 37 | 350 | 9.9 |
| FA2.5A | 5000 | 2273 | 119 | 36 | 5000 | 2273 | 114 | 35 | 4100 | 1864 | 141 | 43 | 700 | 19.8 |
| HU40A | 5000 | 2273 | 44 | 14 | 4000 | 1818 | 57 | 18 | 3200 | 1455 | 70 | 22 | 291 | 8.2 |
| LS2000R | 6200 | 2818 | 47 | 14 | 5150 | 2341 | 56 | 17 | 4400 | 2000 | 66 | 20 | 354 | 10.0 |
| FA2 | 6600 | 3000 | 31 | 9 | 5200 | 2364 | 40 | 12 | 4400 | 2000 | 47 | 14 | 280 | 7.9 |
| FA2.5 | 7000 | 3182 | 97 | 30 | 5800 | 2636 | 117 | 36 | 5000 | 2273 | 132 | 40 | 700 | 19.8 |
| FA5A | 11400 | 5182 | 40 | 12 | 10000 | 4545 | 50 | 15 | 8000 | 3636 | 62 | 19 | 700 | 19.8 |
| FA5T | 12500 | 5682 | 47 | 14 | 11300 | 5136 | 52 | 16 | 8400 | 3818 | 70 | 21 | 700 | 19.8 |
| FA5 | 12500 | 5682 | 47 | 14 | 12500 | 5682 | 48 | 15 | 11000 | 5000 | 54 | 16 | 700 | 19.8 |
| LS5000R | 15600 | 7091 | 23 | 7 | 12900 | 5864 | 28 | 9 | 11000 | 5000 | 33 | 10 | 354 | 10.0 |
| FA7T | 18800 | 8545 | 32 | 10 | 16700 | 7591 | 37 | 11 | 12600 | 5727 | 48 | 15 | 750 | 21.2 |
| FA7 | 18800 | 8545 | 32 | 10 | 18800 | 8545 | 33 | 10 | 15400 | 7000 | 40 | 12 | 750 | 21.2 |
| FA10 | 27200 | 12364 | 28 | 9 | 27100 | 12319 | 19 | 6 | 22000 | 10000 | 23 | 7 | 800 | 22.7 |

PULLING: ANSI/ASME B30.7 allowable rated line pulls (3.5:1 design factor)

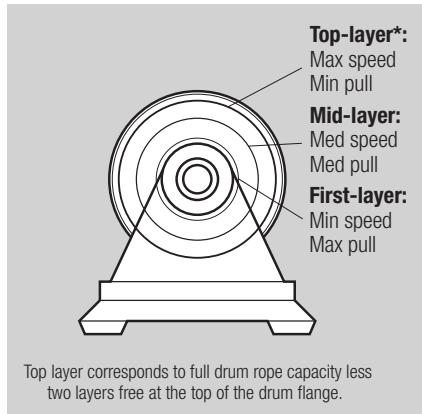
| Utility models | First layer | | | | Mid Layer | | | | Top Layer | | | | Average flow required | |
|----------------|-------------|-------|-------|-------|-----------|-------|-------|-------|-----------|-------|-------|-------|-----------------------|----------------------|
| | Capacity | | Speed | | Capacity | | Speed | | Capacity | | Speed | | cfm | m ³ /min. |
| | lbs | kg | fpm | m/min | lbs | kg | fpm | m/min | lbs | kg | fpm | m/min | | |
| BU7A | 1500 | 682 | 26 | 8 | 1200 | 545 | 34 | 10 | 1000 | 454 | 39 | 12 | 50 | 1.4 |
| PS1000R | 2200 | 1000 | 15 | 5 | 1950 | 886 | 17 | 5 | 1740 | 791 | 19 | 6 | 78 | 2.2 |
| EU, EUL | 3000 | 1364 | 45 | 14 | 2600 | 1182 | 49 | 15 | 2000 | 909 | 64 | 20 | 100 | 2.8 |
| FA2B | 5100 | 2318 | 76 | 23 | 4000 | 1818 | 96 | 29 | 3200 | 1455 | 122 | 37 | 350 | 9.9 |
| PS2400R (1) | 5280 | 2400 | 12 | 4 | 4800 | 2182 | 13 | 4 | 4370 | 1986 | 14 | 4 | 125 | 3.5 |
| FA2 | 6800 | 3091 | 29 | 9 | 5400 | 2455 | 37 | 11 | 4500 | 2045 | 44 | 13 | 280 | 7.9 |
| FA2.5A | 7100 | 3227 | 67 | 20 | 6400 | 2909 | 42 | 13 | 5400 | 2455 | 45 | 14 | 700 | 19.8 |
| FA2.5 | 8000 | 3636 | 79 | 24 | 6600 | 3000 | 42 | 13 | 5300 | 2409 | 119 | 36 | 700 | 19.8 |
| HU40A | 5100 | 2318 | 42 | 13 | 4000 | 1818 | 54 | 17 | 3200 | 1455 | 68 | 21 | 291 | 8.2 |
| PS4000R | 8800 | 4000 | 13 | 4 | 7300 | 3318 | 16 | 5 | 6200 | 2818 | 18 | 5 | 354 | 10.0 |
| FA5A | 13100 | 5955 | 26/8 | 8 | 10000 | 4545 | 50 | 15 | 8000 | 3636 | 62 | 19 | 700 | 19.8 |
| FA5T | 18000 | 8182 | 32 | 10 | 11600 | 5273 | 50 | 15 | 8600 | 3909 | 67 | 20 | 700 | 19.8 |
| FA5 | 18000 | 8182 | 32 | 10 | 14100 | 6409 | 41 | 12 | 11600 | 5273 | 50 | 15 | 700 | 19.8 |
| PS10000R | 22000 | 10000 | 8 | 2 | 18300 | 8318 | 10 | 3 | 15600 | 7091 | 11 | 3 | 354 | 10.0 |
| FA7T | 27000 | 12273 | 23 | 7 | 18100 | 8227 | 32 | 10 | 13600 | 6182 | 46 | 14 | 750 | 21.2 |
| FA7 | 27000 | 12273 | 23 | 7 | 18100 | 8227 | 32 | 10 | 13600 | 6182 | 46 | 14 | 750 | 21.2 |
| FA10 | 34000 | 15455 | 17 | 5 | 27100 | 12319 | 19 | 6 | 22000 | 10000 | 23 | 7 | 800 | 22.7 |

(1) Standard cable is overwound; LS1500R and PS2400R are underwound.

Note: Adding "-E" to model states compliance with European Machinery Directive. See previous page for explanation of compliance.

It is the user's responsibility to determine the suitability of these winches for any particular use and to check for compliance with applicable regulations.

How IR air winches are rated.



■ **Winch capacity:**

Winches can lift or pull the highest loads at the first layer, and can lift/pull the least at the top layer. This is due to the “torque arm” effect of the rope spooling on the winch drum. The closer the load is to the drum, the easier it is for the winch to turn and move the load. The further away the load is from the drum, the harder it is for the winch to turn.

■ **Winch speed:**

Winches generally move the load fastest at the top layer and slowest at the first layer. Think of your old record player. If you put a penny near the center of the record, it would simply spin at the same rate as the record. But if you put it near the outside edge, it would fly off. This is because the outer diameter of the record is travelling faster than the inner diameter. The same is true for a winch drum, and consequently the wire rope.

■ **Follow these guidelines to choose the correct utility winch for your application:**

First, consider these three fundamental questions:

1. How much is to be lifted, pulled, or tensioned?
2. How fast is the load to be moved (if at all)?
3. How much wire rope is needed?

There is a handy checklist at the back of the catalog designed to help you answer these questions and guide you through the selection process. Your IR sales representative, authorized distributor, and factory FAST team are also ready to assist you in finding solutions for all your winch related applications.

Lifting applications are generally defined as those that require the brake to be engaged to prevent the load from falling. Refer to the quick selection guide earlier in this section.

a. **Choose a winch with a lifting capacity equal to or greater than your application load.**

▶ **Tip: Consider using a pulley to increase capacity, reduce speed, and for better load control.**

b. **Make sure the average speed meets your criteria for cycle time.**

c. **Wire rope selection is based on a 5:1 design factor and an 18:1 D/d ratio.** The 18:1 D/d ratio is an ANSI / ASME B30-7 recommendation and is calculated as $D + d / d$ where D = winch barrel diameter and d = wire rope size. The higher the ratio, the longer the wire rope life. As a guideline, this ratio should never go below 15:1. The use of 6 x 37 rope will increase flexibility.

▶ **Tip: Winches with lower gear ratios overhaul better; that is, the load will run them backwards in a controlled descent with the throttle off. By applying the manual band brake, exceptional spotting can be achieved. Auto brakes are always recommended with remote control operation.**

d. **Either manual or automatic brakes are suitable, although automatic brakes are recommended for lifting applications.**

e. **Clutches:** In the U.S.A., clutches are permitted on lifting winches. Although we don't usually recommend them, for certain lifting applications they make sense. In Europe, clutches are not allowed on lifting winches. The Liftstar series is for lifting and the Pullstar for pulling. They are the same winches, but with different ratings—and the Pullstar winches have clutches.

Pulling applications: Because of the 3.5:1 design criteria and the first layer rating, the ratings for pulling applications are higher for the same winch. Choose a winch based on capacity, speed and distance to be pulled. Manual band brakes and clutches are popular configurations, but each application has its own specific requirements. Again, consider pulleys to increase pulling capacity.

Air supply and consumption: All IR winches are rated at 90 psig (6.3 kg/m²) inlet pressure when the winch is running. The volume of air required is expressed in cubic feet per minute (cfm) or cubic meters per minute (m³/min). Refer to the charts or power curves for air consumption data for specific models. Compressor output must equal air consumption for continuous operation. Intermittent operation and/or air storage facilities will allow the use of smaller compressors. Hoses and fittings should be sized equal to or preferably one size larger than the winch inlet. Strainers, lubricators, filters and regulators are recommended based on air quality and the application. Mufflers and kits for piping away the exhaust are always suggested for operator safety and comfort.

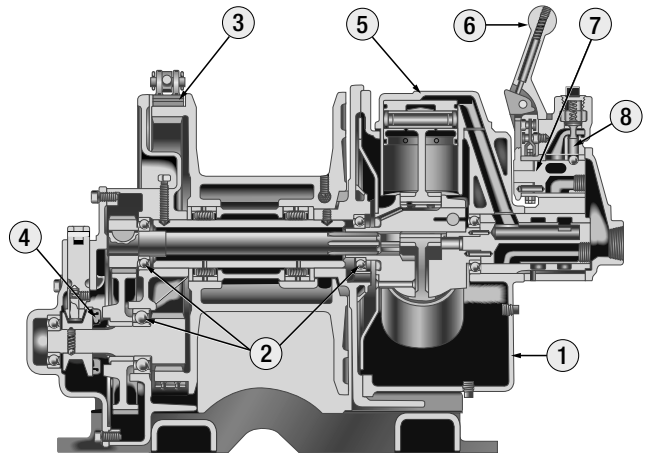
Classic Air Winch Series
1000 and 2000 lb (454 and 909 kg) capacity



Serving the construction and maintenance industries for more than fifty years, these time-tested IR air winches have become the industry standard. Economically priced, these proven performers offer exceptional quality and value. All IR Classic air winches meet ANSI/ASME B30.7

■ **Standard features:**

1. Enclosed construction keeps out dirt and dust and seals in oil and grease for complete lubrication of all moving parts
2. Ball and roller bearings = reduced friction
3. Reliable band type brake securely holds rated load
4. Disengaging clutch allows free wheeling of rope drum for hand unwinding; standard on most models
5. Powerful radial piston air motor for positive starting with precise control
6. Self-closing throttle shuts off automatically when released, providing well-graduated control for spotting loads
7. Reversible motor allows full control of load by throttle when lifting, lowering and pulling
8. Throttle valve is designed to eliminate air leakage when the winch is idle



■ **Options:**

- Automatic band brake
- Remote control
- Tensioning manifold
- Sandblast and carbozinc primer
- Construction cages
- Remote pendant control
- Marine 812 finish

Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

| Model | Line pull/half drum | | Line spd/half drum | | Drum length | | Avg. air consump. | | Max. stall 1st layer | | Pipe inlet | Hose size | Shipping wt | |
|----------------------|---------------------|-----|--------------------|-------|-------------|-----|-------------------|---------------------|----------------------|------|--------------|--------------|-------------|-----|
| | lbs | kg | fpm | m/min | in. | hp | scfm | m ³ /min | lbs | kg | in. (mm) | in. (mm) | lbs | kg |
| BU7A (-E) | 1000 | 454 | 43 | 13 | 4.5 | 1.6 | 50 | 1.4 | 1950 | 886 | 1/2" (13 mm) | 3/4" (19 mm) | 90 | 41 |
| BU7APTAB (-E) | 1000 | 454 | 37 | 11 | 4.5 | 1.6 | 50 | 1.4 | 1950 | 886 | 1/2" (13 mm) | 3/4" (19 mm) | 118 | 54 |
| EU | 2000 | 909 | 68 | 21 | 4.81 | 4.4 | 100 | 2.8 | 4500 | 2045 | 3/4" (19 mm) | 1" (25 mm) | 360 | 164 |
| EUABPT | 2000 | 909 | 78 | 24 | 4.81 | 4.4 | 100 | 2.8 | 4500 | 2045 | 3/4" (19 mm) | 1" (25 mm) | 375 | 170 |
| EUL | 2000 | 909 | 68 | 21 | 12.88 | 4.4 | 100 | 2.8 | 4500 | 2045 | 3/4" (19 mm) | 1" (25 mm) | 490 | 222 |

Adding "-E" to model states compliance with European Machinery Directive. See Air Winch Selection Guide for explanation of compliance.



BU7A 1000 lb
(454 kg) capacity

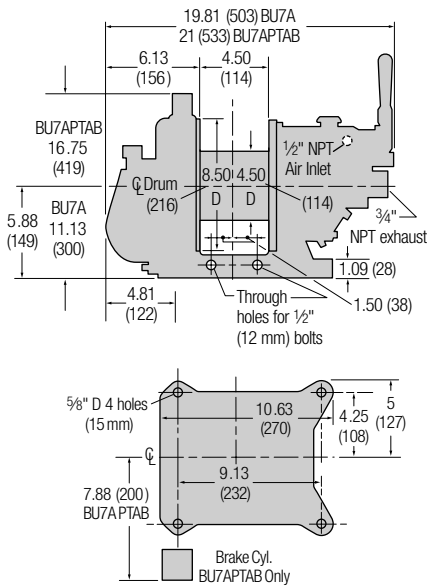


EU 2000 lb
(909 kg) capacity

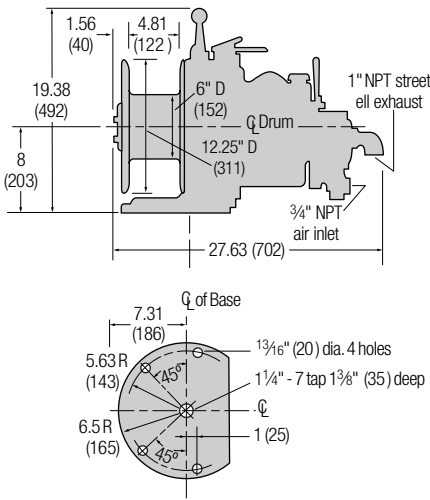
Classic Air Winch Series
1000 and 2000 lb (454 and 909 kg) capacity



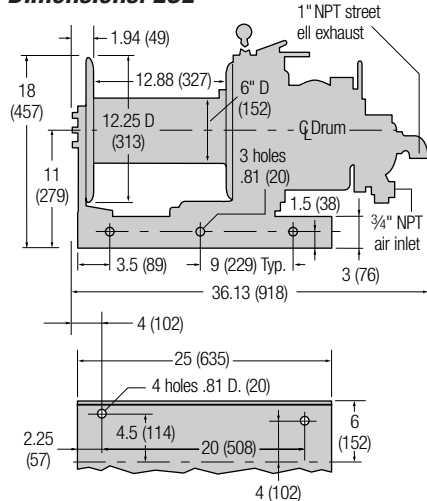
Dimensions: BU7A and BU7APTAB



Dimensions: EU



Dimensions: EUL



Drum wire rope storage capacities

| Model | Capacity (mid layer) | | Max length on winch (tightly wound) | | | | | | Rope anchor hole | | | |
|-----------|----------------------|-----|-------------------------------------|---------------|-----------------|----------------|-----------------|----------------|------------------|-----------------|-------|-------|
| | lbs | kg | 1/4" (6 mm) ft | 1/4" (6 mm) m | 5/16" (8 mm) ft | 5/16" (8 mm) m | 3/8" (10 mm) ft | 3/8" (10 mm) m | 7/16" (11 mm) ft | 7/16" (11 mm) m | in. | mm |
| BU7A (-E) | 1000 | 455 | 228 | 70 | 132 | 40 | - | - | - | - | 11/32 | 9 mm |
| EU | 2000 | 909 | - | - | 339 | 103 | 220 | 67 | 164 | 50 | 9/16 | 14 mm |
| EUL | 2000 | 909 | - | - | 946 | 288 | 619 | 189 | 465 | 142 | 9/16 | 14 mm |

Kits and Accessories

| For series | Drum guard | Auto brake kit | Full flow remote control kit Std or auto brake | | Pilot air remote control kit Std or auto brake | |
|------------|------------|----------------|--|---------------|--|---------------------|
| | | | w/control block (1) | w/pendent (2) | w/control block (2) | w/control block (2) |
| BU7APTAB | BU7A-K298A | Standard | Standard | pendent | - | - |
| BU7A (-E) | BU7A-K298A | - | - | - | - | - |
| EU | EU-K298A | EU-C709 | EU-RC685AB | - | EU-PAK269AB | HU-PAK686AB |
| EUL | EUL-K298A | EU-C709 | EU-RC685AB | - | EU-PAK269AB | HU-PAK686AB |

- (1) Control should be within 30 ft (9.1 m) of winch for std brake and within 20 ft (6.1 m) for use with auto brake.
- (2) Control should be within 50 ft (15.2 m) of winch. Pilot remote control kits do not contain remote control valve chest.

Other options

| Description | BU7A (-E) | Part number EUAB/PT | EU/EUL |
|--------------------------|---------------------------|---------------------------|---------------------------|
| Air strainer | EU-A267 (3/4 in. FNPT) | EU-A267 (3/4 in. FNPT) | EU-A267 (3/4 in. FNPT) |
| Lubricator | L30-06-000 (3/4 in. FNPT) | L30-06-000 (3/4 in. FNPT) | L30-06-000 (3/4 in. FNPT) |
| Exhaust muffler | 50592 (1 in. NPT) | 50592 (1 in. NPT) | 50592 (1 in. NPT) |
| Valve Chest Assembly (1) | - | - | D10-A686 |

(1) Included with full flow remote control kits; required for pilot air remote control kits.

How to Order:

Specify the air winch series desired from the charts in the Air Winch Selection Guide. Remote control and/or auto brake options are available for most air winches. Add correct suffix to winch series if either or both are desired. Specify control hose length "XX" in feet. e.g. BU7APTAB15 is a BU7APTAB with 15 feet (4.6 m) of control hose.

| Model | Remote control | Automatic Brake | - | Options | CE package |
|-------|--|----------------------|---|------------------------------------|--|
| EU | RC | AB | - | PZ | -E = Compliance with the European Machinery Directive (see Air Winch Selection Guide for description - BU7A only). |
| BU7A | PT = Pendent throttle | AB = Automatic brake | - | E = Construction cage | |
| EU | RC = Remote control (full flow) | | | P = Marine 812 finish | |
| EUL | XX = Specify control hose length in feet | | | Q = Special paint; please specify | |
| | | | | R = Natural gas operation | |
| | | | | Z = Sandblast and carbozinc primer | |

Notes:
 Rope drum disengaging clutch is standard equipment on these winches.
 Automatic brake is standard equipment on BU7APTAB and EUAB/PT.
 Automatic brake and disengaging clutch may not be used together.

Caution: These winches are not to be used for lifting or lowering people.

Dimensions are in inches (mm)
 Dimensions are subject to change. Contact factory for certified prints

Liftstar™/Pullstar™ Gear Motor Air Winch Series

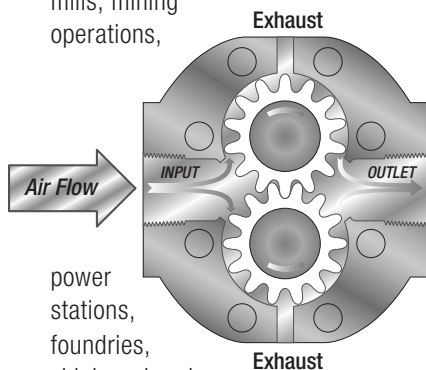
330 to 22000 lb (150 to 10000 kg) capacity

Designed for the demanding conditions found in tough environments with dirty air, these winches feature a low maintenance, highly reliable gear motor with high torque output that translates into smooth starts and stops. Light weight and compact for portability, yet the rugged all ductile iron construction makes it ready to take on your most challenging applications.

Standard features:

LS150R, LS300R, LS600R, LS1500R, PS1000R, PS2400R

- Rugged gear motor tolerates dirty, wet supply air, and is suitable for use in tough environments such as steel mills, mining operations,



- power stations, foundries, shipboard and marine applications, chemical and petroleum industries.
- With only two moving parts, maintenance is low and motor life is long.
- High torque gear motor provides excellent spotting characteristics.
- Variable speed control provided by either the self-returning throttle lever or remote pendent handle.
- **Pullstar** has disengaging clutch for free-spooling unloaded wire rope.
- All ductile iron construction
- Automatic self-adjusting disc brake
- Continuous duty cycle
- Lightweight design for portability.
- Meets ASME B30.7 standards
- Exhaust air routed internally through drum barrel for reduced noise level.
- Operable at 70–100 psi (4.9–7 bar)
- Low air consumption
- Internal gear box in a compact space saving design

Options and accessories:

- Drum guard
- Additional hose lengths for remote pendent up to 66 feet (20 m)
- Lubricator, filter and regulator
- Liquidator
- Pipeline strainer

Standard features – heavy series:

LS2000R, LS5000R, PS4000R, PS10000R

The **Liftstar R** and **Pullstar R** air winches meet the requirements set by the FEM 9.511 standard which covers rating and classification; the Liftstars also meet the FEM 1001 standard for lifting equipment.

Liftstar winches have a 5:1 design factor for lifting at rated load. Lifting capacity is calculated at full drum minus two layers of wire rope. **Pullstar** winches are directly derived from the Liftstar series, but with a 3:1 line pull design factor. Pulling capacity is calculated at first layer of wire rope.

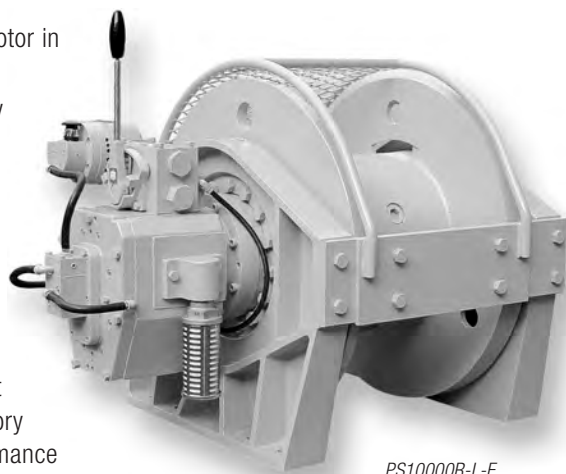
- Lube-free operation
- All ductile iron construction
- Designed in conformity with the latest European standards – FEM classification 1 Bm
- Automatic disc brake
- Reliable gear type air motor in composite material
- High efficiency planetary gear box
- Low noise level; quiet operation
- Disengaging clutch standard on **Pullstar** (pulling) series
- All units delivered with manufacturer's test certificate covering factory construction and performance
- CE package for European models includes as standard:
 - Drum guard
 - Main air shut-off emergency stop
 - Torque limiter (**Liftstar** lifting series only)
 - Instruction and safety manual
 - Declaration of conformity



PS1000R-L



PS2400RGC-L



PS10000R-L-E

Options and accessories:

- Drum guard
- Emergency stop
- Torque limiter (overload protection)
- Marine paint
- Offshore paint
- Skid frame
- Drum brake
- Press roller

Liftstar™/Pullstar™ Gear Motor Air Winch Series

330 to 22000 lb (150 to 10000 kg) capacity



Liftstar specifications: max. lifting values at 90 psi (6.3 bar) air inlet pressure with motor running

| Series no. | Rated lifting at top layer | | | | Average air consumption | | Inlet size in. | Min hose in. | Net weight | |
|----------------|----------------------------|------|-----|-------|-------------------------|---------------------|----------------|--------------|------------|-----|
| | lbs | kg | fpm | m/min | scfm | m ³ /min | | | lbs | kg |
| LS150R-L | 330 | 150 | 138 | 42 | 78 | 2.2 | 1/2 | 1/2 | 60 | 27 |
| LS300R-L | 660 | 300 | 69 | 21 | 78 | 2.2 | 1/2 | 1/2 | 60 | 27 |
| LS600R-L | 1325 | 600 | 34 | 10.5 | 78 | 2.2 | 1/2 | 1/2 | 60 | 27 |
| LS600RGC-L | 1325 | 600 | 34 | 10.5 | 78 | 2.2 | 1/2 | 1/2 | 62 | 28 |
| LS600R-PHM2 | 1325 | 600 | 34 | 10.5 | 78 | 2.2 | 1/2 | 1/2 | 81 | 37 |
| LS600RGC-PHM2 | 1325 | 600 | 34 | 10.5 | 78 | 2.2 | 1/2 | 1/2 | 83 | 38 |
| LS1500R-L | 3300 | 1500 | 23 | 7 | 125 | 3.6 | 3/4 | 3/4 | 143 | 65 |
| LS1500RGC-L | 3300 | 1500 | 23 | 7 | 125 | 3.6 | 3/4 | 3/4 | 146 | 66 |
| LS1500R-PH2M | 3300 | 1500 | 23 | 7 | 125 | 3.6 | 3/4 | 3/4 | 166 | 75 |
| LS1500RGC-PH2M | 3300 | 1500 | 23 | 7 | 125 | 3.6 | 3/4 | 3/4 | 169 | 77 |
| LS2000R | 4400 | 2000 | 66 | 20 | 354 | 10 | 1 1/4 | 1 1/4 | 506 | 230 |
| LS2000RGC | 4400 | 2000 | 66 | 20 | 354 | 10 | 1 1/4 | 1 1/4 | 594 | 270 |
| LS5000R | 11000 | 5000 | 33 | 10 | 354 | 10 | 1 1/4 | 1 1/4 | 1408 | 640 |
| LS5000RGC | 11000 | 5000 | 33 | 10 | 354 | 10 | 1 1/4 | 1 1/4 | 1650 | 750 |

Pullstar specifications: max. lifting and pulling are at 90 psi (6.3 bar) air inlet pressure with motor running

The PS1000R and PS2400R are fitted as standard with a free spool clutch. These winches can be used for lifting at reduced capacity to maintain 5:1 Design Factor only in countries that allow it, eg. USA. See information below for lifting capacities and line speeds for these countries.

| Series no. | Rated pulling at first layer | | | | Average air consumption | | Inlet size in. | Min hose in. | Net weight | |
|----------------|------------------------------|-------|-----|-------|-------------------------|---------------------|----------------|--------------|------------|-----|
| | lbs | kg | fpm | m/min | scfm | m ³ /min | | | lbs | kg |
| PS1000R-L | 2200 | 1000 | 15 | 5 | 78 | 2.2 | 1/2 | 1/2 | 62 | 28 |
| PS1000RGC-L | 2200 | 1000 | 15 | 5 | 78 | 2.2 | 1/2 | 1/2 | 83 | 38 |
| PS1000R-PH2M | 2200 | 1000 | 15 | 5 | 78 | 2.2 | 1/2 | 1/2 | 64 | 29 |
| PS1000RGC-PH2M | 2200 | 1000 | 15 | 5 | 78 | 2.2 | 1/2 | 1/2 | 85 | 39 |
| PS2400R-L | 5280 | 2400 | 12 | 4 | 125 | 3.6 | 3/4 | 3/4 | 146 | 66 |
| PS2400RGC-L | 5280 | 2400 | 12 | 4 | 125 | 3.6 | 3/4 | 3/4 | 169 | 77 |
| PS2400R-PH2M | 5280 | 2400 | 12 | 4 | 125 | 3.6 | 3/4 | 3/4 | 149 | 68 |
| PS2400RGC-PH2M | 5280 | 2400 | 12 | 4 | 125 | 3.6 | 3/4 | 3/4 | 176 | 80 |
| PS4000R | 8800 | 4000 | 13 | 4 | 354 | 10 | 1 1/4 | 1 1/4 | 506 | 230 |
| PS4000RGC | 7920 | 3600 | 13 | 4 | 354 | 10 | 1 1/4 | 1 1/4 | 594 | 270 |
| PS10000R | 22000 | 10000 | 8 | 2 | 354 | 10 | 1 1/4 | 1 1/4 | 1408 | 640 |
| PS10000RGC | 22000 | 10000 | 8 | 2 | 354 | 10 | 1 1/4 | 1 1/4 | 1650 | 750 |

Rope capacity

Recommended wire rope type: Extra Improved Plow Steel (EIPS) with IWRC

| Series no. | Wire rope diameter | Full drum less 2 layers ft (m) | | | | Full drum* ft (m) | | | |
|------------|---|--------------------------------|-----|----------------|-----|-------------------|-----|----------------|-----|
| | | Short drum | | Long drum (GC) | | Short drum | | Long drum (GC) | |
| | | ft. | m | ft. | m | ft. | m | ft. | m |
| LS150R | 3/16 in. (5 mm) for rated lifting or pulling | 394 | 120 | 800 | 244 | 607 | 185 | 1233 | 375 |
| LS300R | 1/4 in. (6.5 mm) for rated lifting or pulling | 207 | 63 | 423 | 129 | 310 | 94 | 634 | 193 |
| LS600R | 1/4 in. (6.5 mm) for lifting or pulling | 207 | 63 | 423 | 129 | 310 | 94 | 634 | 193 |
| | 5/16 in. (8 mm) for rated lifting or pulling | 94 | 28 | 193 | 59 | 214 | 65 | 440 | 134 |
| LS1500R | 3/8 in. (9.5 mm) for rated lifting or pulling | 115 | 35 | 236 | 72 | 260 | 79 | 535 | 163 |
| LS2000R | 1/2 in. (12 mm) for lifting only | 444 | 135 | 494 | 150 | 636 | 194 | 796 | 242 |
| | (13 mm) for lifting only * | 349 | 114 | 484 | 159 | 626 | 205 | 782 | 256 |
| LS5000R | 3/4 in. (19 mm) for lifting only | 521 | 159 | 1099 | 335 | 747 | 227 | 1576 | 480 |
| | (20 mm) for lifting only | 401 | 131 | 847 | 278 | 607 | 199 | 1283 | 421 |
| PS1000R | 1/4 in. (6.5 mm) for pulling only | 207 | 63 | 423 | 129 | 310 | 94 | 634 | 193 |
| | 5/16 in. (8 mm) for lifting or pulling | 94 | 28 | 193 | 59 | 214 | 65 | 440 | 134 |
| PS2400R | 3/8 in. (9.5 mm) for rated lifting or pulling | 115 | 35 | 236 | 72 | 260 | 79 | 535 | 163 |
| PS4000R | 1/2 in. (12 mm) for pulling only | 444 | 135 | 494 | 150 | 636 | 194 | 796 | 242 |
| | (13 mm) for pulling only * | 349 | 114 | 484 | 159 | 626 | 205 | 782 | 256 |
| PS10000R | 3/4 in. (19 mm) for pulling only | 521 | 159 | 1099 | 335 | 747 | 227 | 1576 | 480 |
| | (20 mm) for pulling only | 401 | 131 | 847 | 278 | 607 | 199 | 1283 | 421 |

Note: Based on 3/8 inch EIPS, IWRC wire rope. The maximum allowable ratings are: Pulling / 3414 lbs (1552 kg) and Lifting / 3020 lbs (1373 kg). See the wire rope chart in Tech Tips section for additional information.

* Drum capacities represent tightly spooled wire rope. Recommended drum working capacity is 80% of values shown.

Liftstar™/Pullstar™ Gear Motor Air Winch Series

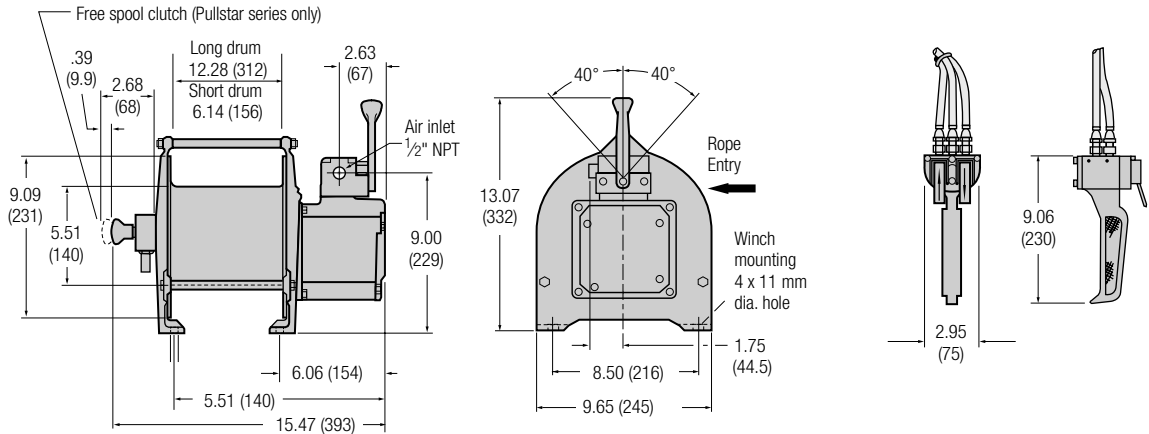
330 to 22000 lb (150 to 10000 kg) capacity



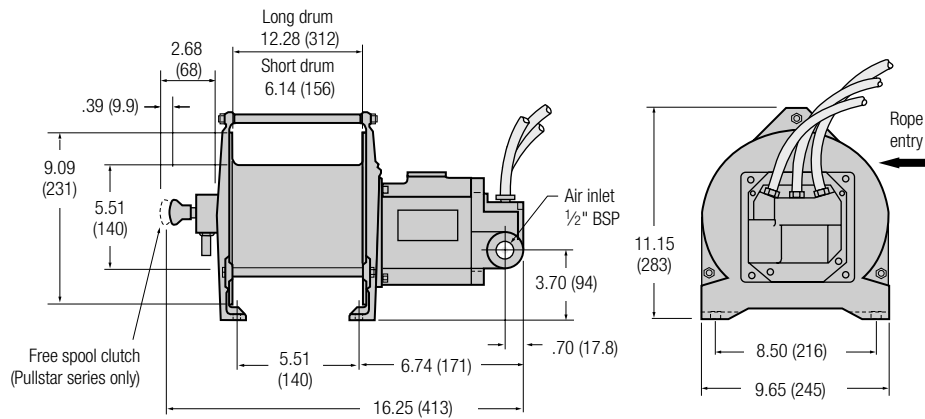
Dimensions:

LS150R-L, LS300R-L, LS600R-L, PS1000R-L in inches (mm). Overwound is standard.

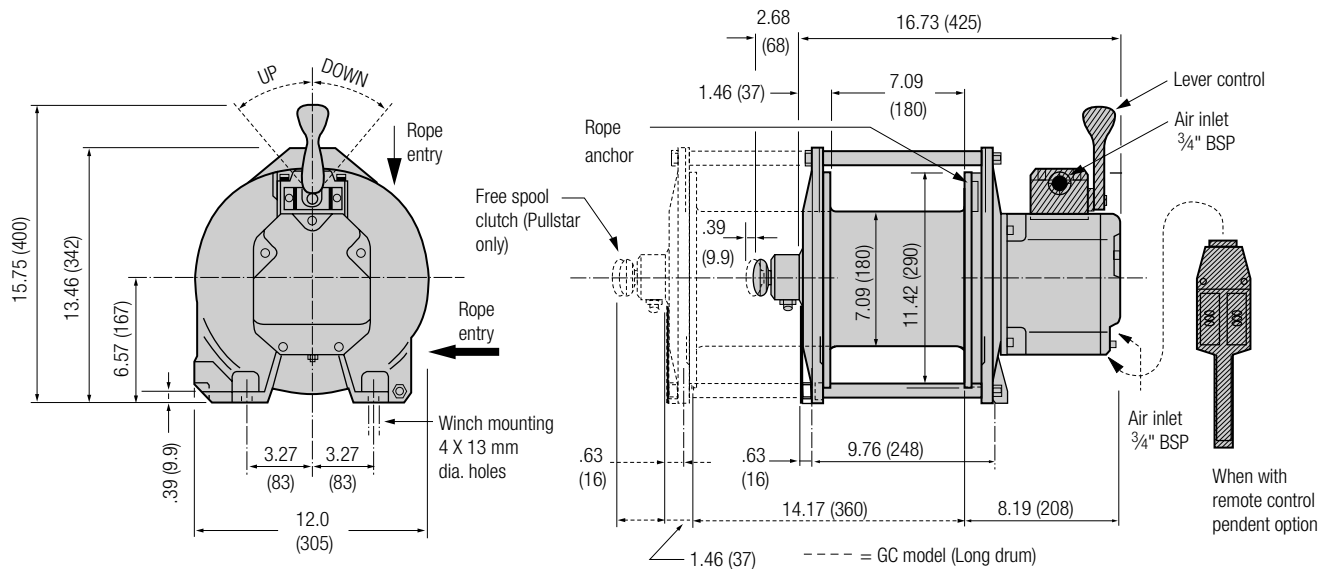
Pendent handle in inches (mm)



LS150R-PH2M, LS300R-PH2M, LS600R-PH2M, PS1000R-PH2M in inches (mm). Overwound is standard.



LS1500R and PS2400R in inches (mm). Underwound is standard.



Dimensions are subject to change. Contact factory for certified prints

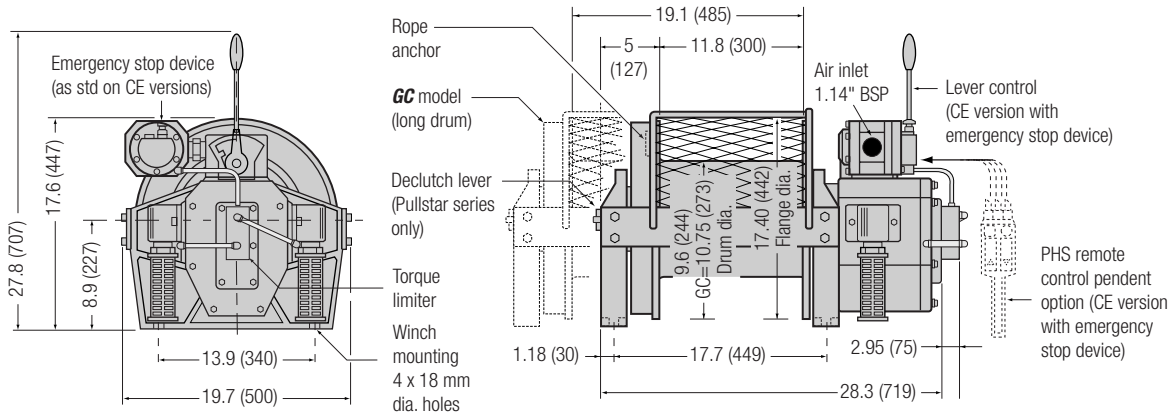
Liftstar™/Pullstar™ Gear Motor Air Winch Series

330 to 22000 lb (150 to 10000 kg) capacity

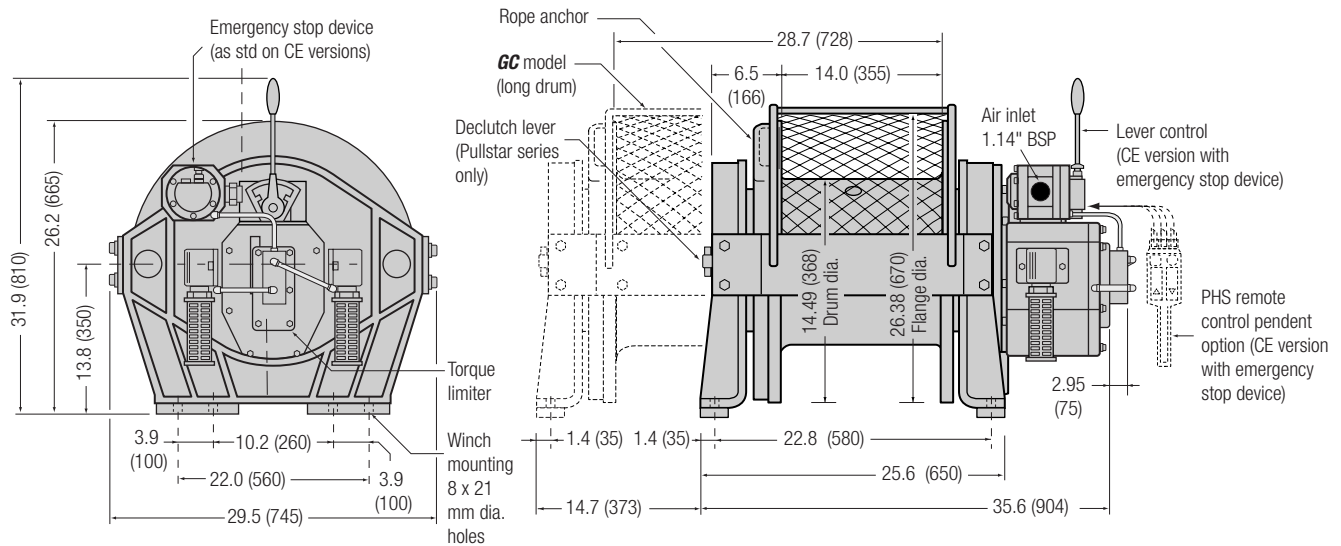


Dimensions:

LS2000R and PS4000R in inches (mm).



LS5000R and PS10000R in inches (mm).



Dimensions are subject to change. Contact factory for certified prints

How to Order

For each order specify the model code as shown below. **Example: LS2400RGC-PH5M-GP**

| Series | Capacity | Drum | - | Control | Control length | - | Options |
|---------------|------------------------|-----------|---|---|----------------|---|---|
| LS | 2400R | GC | - | PH | 5M | - | GP |
| LS = Liftstar | 150R = 150 kg | | | L = Lever (control) | | | G = Drum guard |
| PS = Pullstar | 300R = 300 kg | | | PH = Precision pendent, alloy, type PHS | | | P = Marine finish (standard surface prep, primer, marine paint) |
| | 600R = 600 kg | | | PHR = Cast iron pendent | | | Q = Offshore paint |
| | 1000R = 1000 kg | | | DP = Full flow remote control | | | Z = Sandblast prep and primer |
| | 1500R = 1500 kg | | | | | | |
| | 2000R = 2000 kg | | | | | | |
| | 2400R = 2400 kg | | | | | | |
| | 4000R = 4000 kg | | | 2M = 2 meter (standard) | | | |
| | 5000R = 5000 kg | | | 5M = 5 meter pendent | | | |
| | 10000R = 10000 kg | | | XX = Specify control length up to 20 m | | | |
| | R = Air | | | | | | |
| | No letter = Standard | | | | | | |
| | GC = Long drum | | | | | | |

| Accessories and Options | |
|--|------------------------|
| Description | Part no. |
| • Lubricators (3/4 in./19 mm) In line bowl type Portable "can" type | L30-06-000 50611 |
| • Filter (3/4 in./19 mm) | F30-06-000 |
| • Regulator (3/4 in./19 mm) | R28-06-F0G0-28 |
| • Liquidator (3/4 in./19 mm) | 8826-W2-000 |
| • Pipeline strainer | EU-A267 |
| • Drum guard G LS150R, LS300R, LS600R and PS1000R Short drum Long drum | 7618-0057 7618-0059 |
| • Drum guard G LS1500R and PS2400R Short drum Long drum | 7631-0009 7631-0010 |
| • Additional control hose for "PHXX" in excess of 2m | Specify in model code |
| • Marine paint P | Specify in model code |
| • Sandblast and carbozinc primer only Z | Specify in model code |

“Third Generation” Air Winch Series

FA2B 4000 lb (1818 kg) capacity



How do you improve on a great idea? With four significant changes over the FA2A, the FA2B takes a good idea and makes it even better.

■ Four changes for improved performance and reliability

- **NEW MP150** piston motor maintains the progressive scotch yoke and adds more horsepower (16 hp). Oil free design with fewer parts and reduced vibration means easier and less frequent service. Two other piston motor options are available.
- New self-cleaning K5C2 control valve improves flow and performance. It has a primary bushing for reduced maintenance cost, more stainless steel and polymer corrosion resistant parts for smoother, more responsive control and is totally interchangeable with previous designs. 100% natural gas/sour gas compatible.
- Modified gearbox design improves efficiency and durability.
- Redesigned disc brake lowers required release pressure to 25 psig for smoother performance and no drag when air supplies are borderline.

■ What else is new....

- Lifting lugs
- One size fastener on the entire motor.
- Slide lift column on throttle prevents accidental movement.

■ Options:

- Band brakes – manual and automatic
- Drum guards
- Remote full flow and pilot controls
- Free spool clutches
- CE packages
- Grooved drums
- Divider flanges

-E = Compliance with the European Machinery Directive. Includes as standard on utility rated winches:

- 1 Main air supply shutoff
- 2 Overload device
- 3 Drum guard
- 4 Muffler
- 5 CE documentation



FA2B-SXK1R

- Tensioning manifolds
- Natural gas compatible; Option **R**
- HU40A (11 hp) or AMP94A (9.4 hp) motor/valve combinations
- Construction cages and open frame configurations
- Material Traceability and Type Approval Certification
- Low temperature versions
- FE2B electric and FH2B hydraulic units

■ Why the FA2B is such good value...

- Corrosion resistant marine grade coating system: Sandblast to white metal finish and carbozinc primer with a Marine 812 finish.
- Meets ANSI / ASME B30.16, B30.7 and has been design reviewed and approved by Det Norske Veritas. Meets European CE standards.
- Internal disc brake is oil cooled. They run and last longer. Band brakes use the latest Scanpac brake material.
- Wedge type, self tightening rope anchor provides 80% of rope breaking strength
- It is designed and built to survive some of the harshest conditions on the planet — the offshore drilling environment.

Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

| Model number | Lift rating ⁽¹⁾ | | | Pull rating ⁽¹⁾ | | | Stall lbs | Stall kg | Average air cons | Recom. Ingersoll Comp. | Mtr hp | Pipe size NPT in. | Rec'd rope size in. ⁽¹⁾ |
|---|-------------------------------------|-------------|-------------|----------------------------------|-------------|-------------|-----------|----------|---------------------|------------------------|--------|-------------------|------------------------------------|
| | per ANSI / ASME B30.16 at 5:1 first | mid | top | ANSI / ASME B30.7 at 3.5:1 first | mid | top | | | | | | | |
| FA2B Air Powered | | | | | | | | | | | | | |
| Capacity lbs (kg) | 5000 (2268) | 4000 (1818) | 3200 (1451) | 5000 (2313) | 4000 (1818) | 3200 (1451) | 6800 | 3084 | 350 | P185-P375 | 16 | 1 1/4 | 1/2 |
| Speed fpm (mpm) | 79 (24) | 96 (29) | 122 (37) | 79 (24) | 96 (29) | 122 (37) | | | | | | | |
| HU40A Air Powered | | | | | | | | | | | | | |
| Capacity lbs (kg) | 5000 (2273) | 4000 (1818) | 3260 (1482) | 7140 (3245) | 5700 (2585) | 4600 (2091) | 11600 | 5273 | 270 | P185-P375 | 11 | 1 | 1/2 |
| Speed fpm (mpm) | 54 (16.4) | 70 (21.3) | 86 (26.2) | 40 (12) | 49 (14.9) | 60 (18.3) | | | | | | | |
| AM94A Air Powered | | | | | | | | | | | | | |
| Capacity lbs (kg) | 5000 (2273) | 4000 (1818) | 3260 (1482) | 5000 (2273) | 4000 (1818) | 3260 (1482) | 5500 | 2500 | 320 | P185-P250 | 9.4 | 1 | 1/2 |
| Speed fpm (mpm) | 36 (10.0) | 46 (14.0) | 56 (17.1) | 15 (4.6) | 19 (5.8) | 24 (7.3) | | | | | | | |
| FH2B Hydraulic Powered⁽²⁾ | | | | | | | | | | | | | |
| Capacity lbs (kg) | 5000 (2273) | 4000 (1818) | 3260 (1482) | 7140 (3245) | 5700 (2585) | 4600 (2091) | 9560 | 4345 | gpm ⁽³⁾ | psig ⁽⁴⁾ | 17 | (7) | 1/2 |
| Speed fpm (mpm) | 93 (28.3) | 112 (34.1) | 138 (42.1) | 93 (28.3) | 112 (34.1) | 138 (42.1) | | | | | | | |
| FE2B Electric Powered | | | | | | | | | | | | | |
| Capacity lbs (kg) | 5000 (2273) | 4000 (1818) | 3260 (1482) | 5000 (2273) | 4000 (1818) | 3260 (1482) | 11000 | 5000 | amps ⁽⁵⁾ | amps ⁽⁶⁾ | 15 | NA | 1/2 |
| Speed fpm (mpm) | 77 (23.5) | 100 (30.5) | 123 (37.5) | 77 (23.5) | 100 (30.5) | 123 (37.5) | | | | | | | |

(1) IR rates to both ANSI / ASME B30.16 (overhead hoists) and ANSI / ASME B30.7 (base mounted drum hoists). Always refer to these (or applicable) standards for details. We recommend 1/2 inch (13 mm) dia. 6 x 19 Extra Improved Plow Steel IWRC wire rope.

(2) Hydraulic winch performance is directly proportional to pressure and flow. An increase/decrease in pressure

(psig) and flow (gpm) results in an increase/decrease in capacity and speed. FH2B performance has been set within ANSI / ASME B30.16/B30.7 design criteria. This rating may be different from other hydraulic winch manufacturers. Please contact technical sales with application/performance requirements.

(3) Flow (25 gpm).

(4) Pressure (psig), 1850 lifting, 2350 pulling.

(5) Full load current, 19 amps @ 460V.

(6) Max current draw (locked rotor), 110 amps @ 460V.

(7) SAE-12 JIC

“Third Generation” Air Winch Series
FA2B 4000 lb (1818 kg) capacity



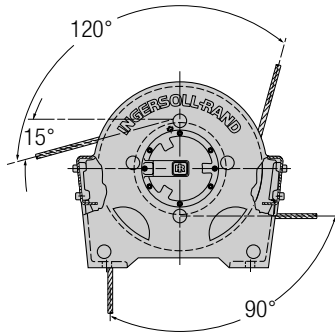
Rope storage capacities ⁽¹⁾ (all versions)

Drum capacities represent tightly spooled wire rope. Recommended drum working capacity is 80% of values shown.

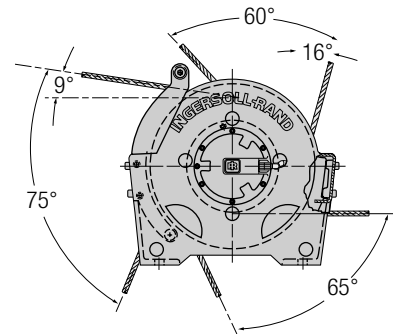
| Drum length | | Full drum less 1/2" (13 mm) ⁽²⁾ | | | | | | | | Full drum storage | | | | | | | |
|-------------|-----|--|---------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------------|---------------|--------------|--------------|--------------|---------------|--------------|--------------|
| | | Wire rope diameter | | | | | | | | Wire rope diameter | | | | | | | |
| in. | mm | 3/8" (10 mm) | 7/16" (11 mm) | 1/2" (13 mm) | 5/8" (16 mm) | 3/8" (10 mm) | 7/16" (11 mm) | 1/2" (13 mm) | 5/8" (16 mm) | 3/8" (10 mm) | 7/16" (11 mm) | 1/2" (13 mm) | 5/8" (16 mm) | 3/8" (10 mm) | 7/16" (11 mm) | 1/2" (13 mm) | 5/8" (16 mm) |
| 7 | 178 | 519 | 158 | 396 | 120 | 300 | 91 | 164 | 50 | 593 | 180 | 460 | 140 | 356 | 108 | 206 | 62 |
| 13 1/2 | 343 | 1029 | 314 | 788 | 240 | 600 | 183 | 330 | 100 | 1176 | 358 | 915 | 279 | 712 | 217 | 416 | 126 |
| 20 | 508 | 1538 | 468 | 1180 | 360 | 900 | 274 | 497 | 151 | 1758 | 535 | 1371 | 417 | 1068 | 325 | 625 | 190 |
| 24 | 610 | 1852 | 564 | 1421 | 433 | 1085 | 331 | 600 | 183 | 2116 | 645 | 1651 | 503 | 1287 | 392 | 754 | 230 |

(1) For allowable rope takeoff angles. See illustrations below.
 (2) Per ANSI / ASME B30.7

Typical allowable wire rope takeoff angle: Shaded areas represent the allowable angle of rope takeoff without interference with the winch’s structural supports.



Standard Configuration

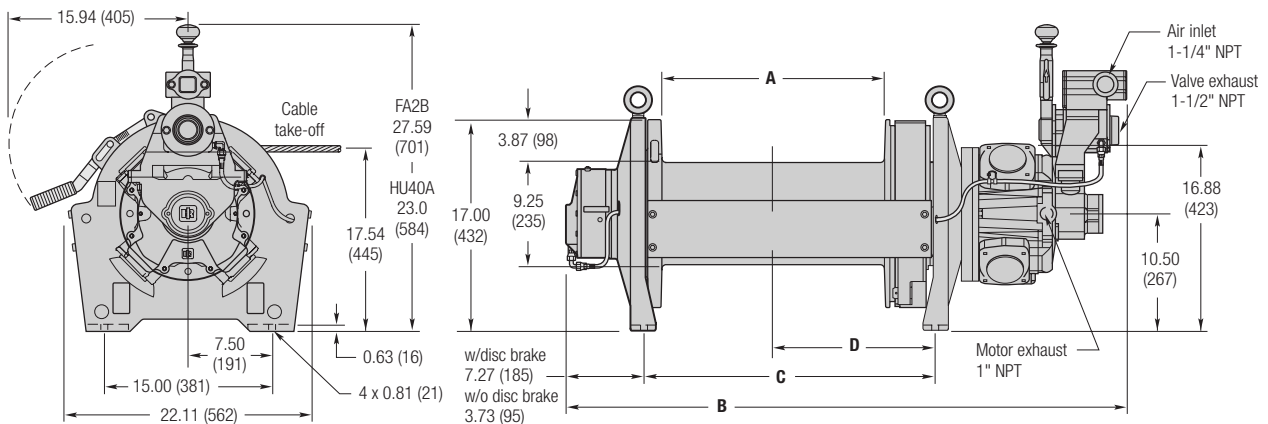


Open Front Configuration (Option H)

Dimensions

| Model number | Type of drum brk. | Auto disc brk. | A | | FA2B only B | | HU40A only B | | C | | D | |
|----------------------------|--------------------|----------------|------|-----|-------------|------|--------------|------|------|-----|------|-----|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| FA2B- / HU40A- SXX1 | None | Yes | 7.0 | 178 | 34.7 | 881 | 33.8 | 859 | 9.6 | 244 | 4.8 | 122 |
| FA2B- / HU40A- MXK1 | None | Yes | 13.5 | 343 | 41.2 | 1046 | 40.3 | 1024 | 16.1 | 409 | 8.0 | 203 |
| FA2B- / HU40A- LXX1 | None | Yes | 20.0 | 508 | 47.7 | 1212 | 46.8 | 1189 | 22.6 | 574 | 11.3 | 287 |
| FA2B- / HU40A- RXK1 | None | Yes | 24.0 | 610 | 51.7 | 1313 | 50.8 | 1290 | 26.6 | 676 | 13.3 | 338 |
| FA2B- / HU40A- SMK1 (SAK1) | Manual (automatic) | Yes | 7.0 | 178 | 37.4 | 950 | 36.5 | 927 | 12.3 | 312 | 7.5 | 191 |
| FA2B- / HU40A- MMK1 (MAK1) | Manual (automatic) | Yes | 13.5 | 343 | 43.9 | 1115 | 43.0 | 1092 | 18.8 | 478 | 10.8 | 274 |
| FA2B- / HU40A- LMK1 (LAK1) | Manual (automatic) | Yes | 20.0 | 508 | 50.4 | 1280 | 59.5 | 1257 | 25.3 | 643 | 14.0 | 356 |
| FA2B- / HU40A- RMK1 (RAK1) | Manual (automatic) | Yes | 24.0 | 610 | 54.4 | 1382 | 53.5 | 1359 | 29.3 | 744 | 16.0 | 406 |
| FA2B- / HU40A- SMX1 (SAX1) | Manual (automatic) | No | 7.0 | 178 | 34.1 | 866 | 33.2 | 843 | 12.3 | 312 | 7.5 | 191 |
| FA2B- / HU40A- MMX1 (MAX1) | Manual (automatic) | No | 13.5 | 343 | 40.6 | 1031 | 39.7 | 1008 | 18.8 | 478 | 10.8 | 274 |
| FA2B- / HU40A- LMX1 (LAX1) | Manual (automatic) | No | 20.0 | 508 | 47.1 | 1196 | 46.2 | 1173 | 25.3 | 643 | 14.0 | 356 |
| FA2B- / HU40A- RMX1 (RAX1) | Manual (automatic) | No | 24.0 | 610 | 51.1 | 1298 | 50.2 | 1275 | 29.3 | 744 | 16.0 | 406 |

FA2B / HU40A in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

“Third Generation” Air Winch Series
FA2B 4000 lb (1818 kg) capacity



How to Order:

Specify by complete model code as illustrated. **Example: FA2B-LXK1G** = 4000 lb (1818 kg) capacity, long drum, auto disc brake, winch mounted lever control, and drum guard.

| Series | Capacity | Generation | - | Drum length | Drum brake | Disc brake | Control | Options |
|---|-------------------------|-------------------------|---|---|--|---|----------|--|
| FA | 2 | B | - | L | X | K | 1 | G |
| | 2 = 2 ton (4000 lbs) | B = Third generation | | S = Short M = Medium L = Long R = Extra long Note: See drum length matrix below | A = Auto drum brake M = Manual drum brake X = No drum brake | X = No auto disc brake K = Auto disc brake | | 7 = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") B = Press roller (specify takeoff angles) C = Low temperature; please specify in text: -10° C or -20° C D = Drum divider flange and additional cable anchor E = Construction cage F = Free spool clutch ⁽²⁾ G = Drum guard H = Open frame for horizontal pulling M1 = Per DIN 50049/En10204 Para 2.2 "Typicals" ⁽³⁾ M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased ⁽³⁾ M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition ⁽³⁾ N = Type approval; please specify in text DNV, ABS or Lloyds P = Marine 812 finish Q = Special paint; please specify R = Suitable for operation with natural gas with up to 4 percent sulphur content T = Tension manifold U = Underwound (available only with auto disc brake XK) W = Witness; please specify X = Testing; please specify Z = Sandblast and carbozinc primer only -E = Compliance w/European Machinery Directive |
| <p>FA = Air powered HU40A* AMP94A* * = Substitute for FA2B FE = Electric powered FH = Hydraulic powered</p> | | | | | | | | |
| <p>(1) With remote pilot control option, line speeds will decrease. (2) Only available with manual drum brake. (3) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest Ingersoll-Rand distributor for information.</p> <p>M1 Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.) M2 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.) M3 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)</p> | | | | | | | | |
| <p>1 = Standard winch mounted throttle 2XX = Remote full flow lever throttle (max 20 ft/6 m) 3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) ⁽¹⁾ 4XX = Remote pilot lever throttle (max 66 ft/20 m) ⁽¹⁾ 5XX = Remote electric over air throttle XX = Specify hose length or pendent cord in feet</p> | | | | | | | | |

“Third Generation” Air Winch Series
FA2.5A/FA5A: 5000 to 10000 lb (2273 to 4545 kg) capacity



The Third Generation Force 5 Series is designed for world-wide standards, meeting or exceeding North American ANSI / ASME B30.7 winch standards, CE requirements for Europe and third party Type Approval. The Third Generation offers standard features with reduced maintenance for safety, durability, reliability, enhanced control, and superior performance.

■ **Standard features:**

- Automatic disc brake or manual band brake
- Corrosion resistant, marine duty “Blue” fasteners
- New self-cleaning K5C2 control valve improves flow and performance, has more stainless steel and polymer corrosion resistant parts, and is totally interchangeable with previous designs. 100% natural gas/sour gas compatible.
- Easy to install wedge type self-tightening rope anchor
- Powerful 5 piston air motor.

■ **Safety is Built In:**

- Meets ASME B30.7 safety standards
- “Lift and shift” throttle lever prevents accidental throttle movement
- Throttle lever returns to OFF position and locks when released
- Disc brake is fully automatic and self-adjusting
- Wedge type, self tightening-rope anchor provides 80% of rope breaking strength

■ **Reliability**

- Maximum external corrosion protection against marine and other environments is provided as standard.
- Automatic oil bath disc brake has high thermal duty. Suitable for demanding applications.
- Marine grade alloys and stainless steel components make the valve chest corrosion resistant and maintenance free.

■ **Performance**

- Superior load spotting control
- Positive braking action with automatic disc brake



FA5A-LXX1

■ **Construction**

- Designed to meet the space and performance requirements of the Classic winches

■ **Options**

- Corrosion resistant marine grade coating system: Sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Band brakes – manual and automatic
- Remote controls
- Construction cages
- Open frame configurations
- Foot print base with K6U and K6UL bolt pattern for FA5A
- Free spool clutch
- Tensioning manifold
- Drum guard
- Underwound configuration
- CE package

-E = Compliance with the European Machinery Directive. Includes as standard on utility rated winches:

- 1 Main air supply shutoff
- 2 Overload device
- 3 Drum guard
- 4 Muffler
- 5 CE documentation

Specifications*

| Description | FA2.5A | | FA5A | |
|-----------------------------------|-----------|------------------------|-----------|------------------------|
| | 5000 lbs | 2273 kg | 10000 lbs | 4545 kg |
| Rated mid layer line pull, 5:1 DF | 5000 lbs | 2273 kg | 10000 lbs | 4545 kg |
| Rated mid layer line speed | 114 fpm | 35 m/min | 32 fpm | 10 m/min |
| Top (6th) layer line pull, 5:1 DF | 4100 lbs | 1860 kg | 8000 lbs | 3629 kg |
| Top (6th) layer line speed | 141 fpm | 43 m/min | 43 fpm | 13 m/min |
| Max. stall at first layer | 10400 lbs | 4727 kg | 17000 lbs | 7727 kg |
| Drum root diameter | 9.25 in. | 235 mm | 12.75 in. | 324 mm |
| Motor horsepower | 25 hp | | 25 hp | |
| Avg air consumption | 700 scfm | 20 m ³ /min | 700 scfm | 20 m ³ /min |
| Air inlet, NPT size | 1 1/4 in. | 32 mm | 1 1/4 in. | 32 mm |
| Recommended rope diameter | 5/8 in. | 16 mm | 3/4 in. | 19 mm |
| Weight | 818 lbs | 372 kg | 1251 lbs | 569 kg |

* Performance is based on 90 psi (6.3 bar) air inlet pressure with the motor running.

Wire rope storage capacity

| Rope dia in. mm | Length of drum in. (mm) | | | | | | | | | |
|---------------------------------|-------------------------|-----|-------------------|--------------------------------|---------------|--------------------------------|---------------|--------------------------------|-----|--------------------------------|
| | S 7 (178) | | M 13 1/2 (343) | | L 20 (508) | | R 24 (610) | | | |
| | ft | m | ft | m | ft | m | ft | m | | |
| FA2.5A full drum storage | | | | | | | | | | |
| 3/8 | 9 | 593 | 181 | 1176 | 359 | 1758 | 536 | 2116 | 645 | |
| 7/16 | 11 | 460 | 140 | 915 | 279 | 1371 | 418 | 1651 | 503 | |
| 1/2 | 13 | 356 | 109 | 712 | 217 | 1068 | 326 | 1287 | 392 | |
| 5/8 | 16 | 206 | 63 | 416 | 127 | 625 | 191 | 754 | 230 | |
| | | | | Short drum | | Long drum | | | | |
| | | | | 12 (305) ⁽¹⁾ | | 15 (381) ⁽²⁾ | | 24 (610) ⁽¹⁾ | | 27 (686) ⁽²⁾ |
| FA5A full drum storage | | | | | | | | | | |
| 5/8 | 16 | 777 | 236 | 982 | 299 | 1597 | 486 | 1802 | 549 | |
| 3/4 | 19 | 581 | 177 | 736 | 224 | 1200 | 366 | 1355 | 413 | |

(1) With band brake

(2) Without band brake

Recommended drum working capacity is 80% of values shown.

“Third Generation” Air Winch Series
FA2.5A/FA5A: 5000 to 10000 lb (2273 to 4545 kg) capacity



Dimensions: FA2.5A

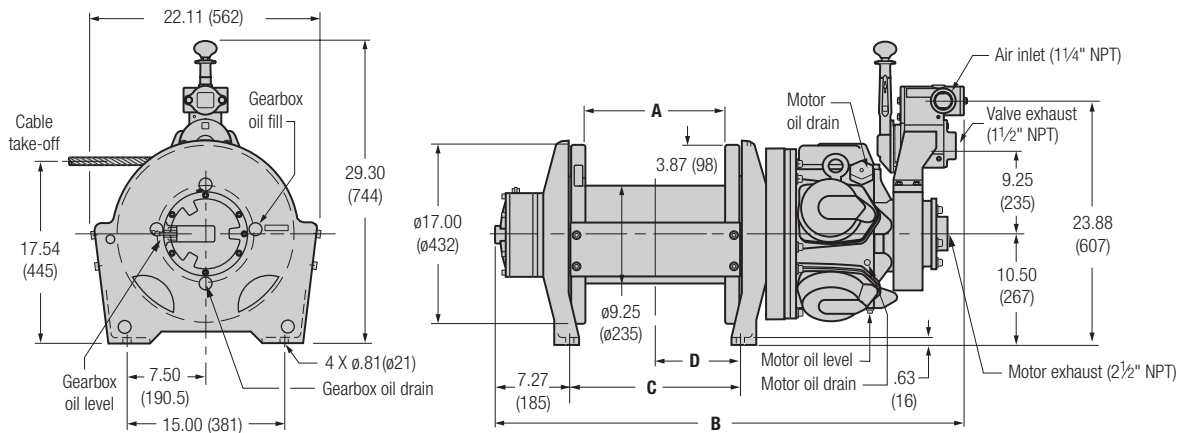
| Model | Drum length | | w/disc brake only | | | | w/manual drum brake only | | | | w/manual and disc brake | | | | | | | | | |
|----------|-------------|-----|-------------------|------|-------|-----|--------------------------|-----|-------|------|-------------------------|-----|------|-----|-------|------|-------|-----|------|-----|
| | A | | B | | C | | B | | C | | B | | C | | D | | | | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | | | |
| FA2.5A-S | 7 | 178 | 38.44 | 976 | 9.55 | 243 | 4.78 | 121 | 37.64 | 956 | 12.31 | 313 | 7.5 | 191 | 41.19 | 1046 | 12.31 | 313 | 7.5 | 191 |
| FA2.5A-M | 13.5 | 343 | 44.94 | 1141 | 16.05 | 408 | 8.03 | 204 | 44.14 | 1121 | 18.81 | 478 | 10.8 | 274 | 47.69 | 1211 | 18.81 | 478 | 10.8 | 274 |
| FA2.5A-L | 20 | 508 | 51.44 | 1306 | 22.55 | 573 | 11.28 | 286 | 50.64 | 1286 | 25.31 | 643 | 14 | 356 | 54.19 | 1376 | 25.31 | 643 | 14 | 356 |
| FA2.5A-R | 24 | 610 | 55.44 | 1408 | 26.55 | 674 | 13.28 | 337 | 54.64 | 1388 | 29.31 | 744 | 16 | 406 | 58.19 | 1478 | 29.31 | 744 | 16 | 406 |

Dimensions: FA5A

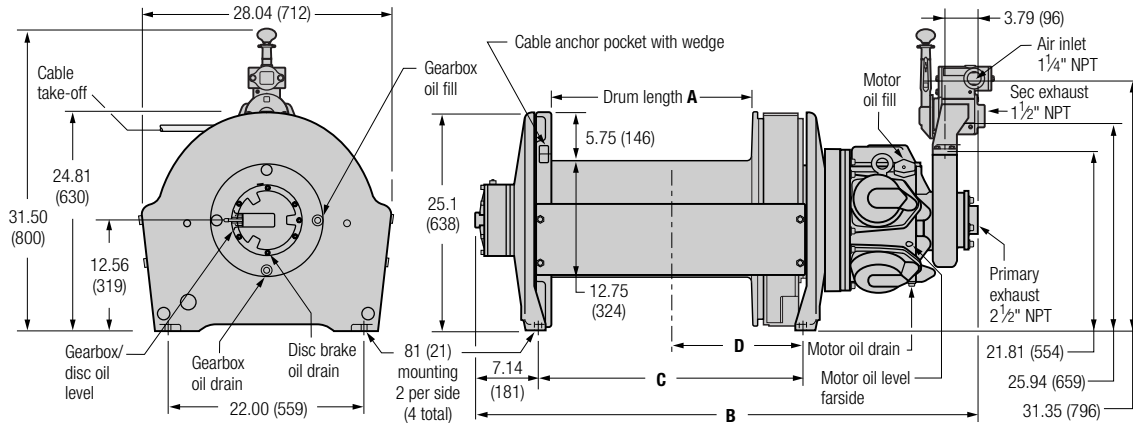
| | | | | | | | | | | | | | | | | | | | | |
|---------|----|-----|-------|------|-------|-----|-------|-----|----|------|-------|-----|------|-----|------|------|-------|-----|------|-----|
| FA5A-SX | 15 | 381 | 46.50 | 1181 | 17.89 | 454 | 8.94 | 227 | 43 | 1092 | 17.89 | 454 | 10.5 | 266 | 46.5 | 1181 | 17.89 | 454 | 10.5 | 266 |
| FA5A-LX | 27 | 686 | 58.50 | 1486 | 29.89 | 759 | 14.94 | 379 | 55 | 1397 | 29.89 | 759 | 16.5 | 419 | 58.5 | 1486 | 29.89 | 759 | 16.5 | 419 |

Note: Drum lengths for the FA5A-SM = 12 in. (305), and FA5A-LM = 24 in. (610 mm).

FA2.5A in inches (mm)



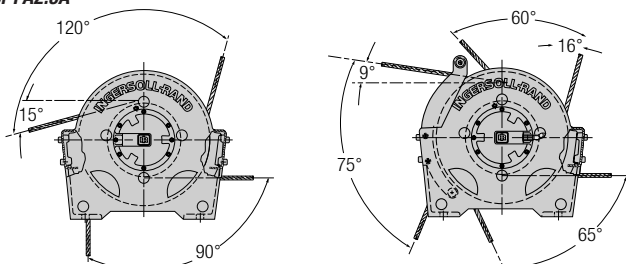
FA5A in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Typical allowable wire rope takeoff angle: Shaded areas represent allowable angle of rope takeoff without interference with winch structural supports.

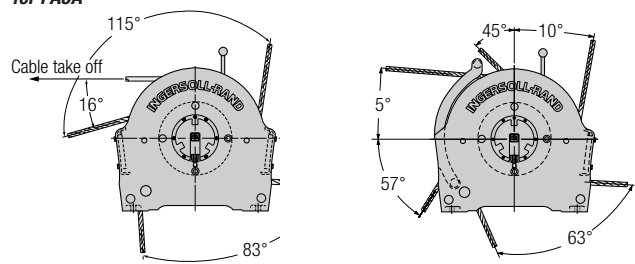
for FA2.5A



Standard Configuration

Open Front Configuration (Option H)

for FA5A



Standard Configuration

Open Front Configuration (Option H)

"Third Generation" Air Winch Series

FA2.5A/FA5A: 5000 to 10000 lb (2273 to 4545 kg) capacity



How to Order:

Specify winch by complete model code as shown.

Example: FA5A-LXK1G = 10000 lb (4545 kg) capacity, 27" (686 mm) drum, auto disc brake, throttle-control and drum guard.

| Series | Capacity | Generation | Drum length | Drum brake | Disc brake | Control | Options |
|-----------|---|-----------------------------|---|--|--|--|--|
| FA | 5 | A | L | X | K | 1 | G |
| | 2.5 = 2.5 ton (5000 lbs) 5 = 5 ton (10000 lbs) | A = Third generation | S = Short M = Medium L = Long R = Extra long Note: See drum length matrix below | A = Auto drum brake M = Manual drum brake X = No drum brake | X = No auto disc brake K = Auto disc brake | 1 = Standard winch mounted throttle 2XX = Remote full flow lever throttle (max 20 ft/6 m) 3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) ⁽¹⁾ 4XX = Remote pilot lever throttle (max 66 ft/20 m) ⁽¹⁾ 5XX = Remote electric over air throttle XX = Specify hose length or pendent cord in feet | 7 = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") C = Low temperature; please specify in text: -10° C or -20° C D = Drum divider flange and additional cable anchor E = Construction cage F = Free spool clutch ⁽²⁾ G = Drum guard H = Open frame for horizontal pulling K = K6 footprint base for FA5A M1 = Per DIN 50049/En10204 Para 2.2 "Typicals" ⁽³⁾ M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased ⁽³⁾ M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition ⁽³⁾ N = Type approval; please specify in text DNV, ABS or Lloyds P = Marine 812 finish Q = Special paint; please specify T = Tension manifold U = Underwound (available only with auto disc brake XX) V = Press roller (specify takeoff angles) W = Witness; please specify X = Testing; please specify Z = Sandblast and carbozinc primer only -E = Compliance with the European Machinery Directive |

FA = Air powered

| FA2.5A Drum length | | | | | |
|--------------------|------------|-----|--------|-----|--|
| Length of drum | Drum brake | | | | |
| | without | | with | | |
| | in. | mm | in. | mm | |
| S | 7 | 178 | 7 | 178 | |
| M | 13 1/2 | 343 | 13 1/2 | 343 | |
| L | 20 | 508 | 20 | 508 | |
| R | 24 | 610 | 24 | 610 | |

| FA5A Drum length | | | | | |
|------------------|-----|-----|-----|-----|--|
| | in. | mm | in. | mm | |
| S | 15 | 381 | 12 | 305 | |
| L | 27 | 686 | 24 | 610 | |

(1) With remote pilot control option, line speeds will decrease.
(2) Only available with manual drum brake.
(3) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest Ingersoll-Rand distributor for information.

M1 Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.)
M2 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.)
M3 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)

Force 5™ Air Winch Series 4400 to 22000 lb (2000 to 10000 kg) capacity

Setting the standards in winch technology with time savings, space savings and enhanced safety, IR's line of high quality Force 5 air winches are known throughout the world for their rugged dependability and quality in the hard-hat industries.

■ Your assurance of quality:

Force 5 winches are designed to meet or exceed independent third party requirements. Models have been design reviewed or Type Approved by ABS, DNV and LRS. Type Approval certificates are available upon request. This modern winch is designed for the harshest environments!

■ Versatility:

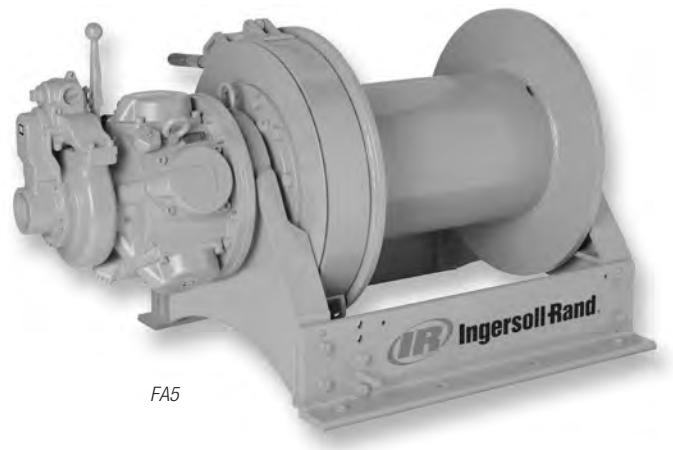
Force 5 winches offer maximum versatility to meet numerous lifting, pulling, or tensioning challenges. Substitute a wide variety of gear ratios to better meet **your** speed and capacity needs. Design, material, and dimensional changes are a snap with fabricated frames. Available option packages meet the requirements of oil refineries, mining, construction and offshore oil drilling.

■ Standard features:

- Meets ASME B30.7
- 5:1 design factor at rated load
- Full drum rated line pull: a Force 5 winch always pulls or lifts its rated load at any and all wire rope layers.
- Internal gearbox and optional disc brake combination provide load control superior to other types of air winches.
- Compact, space-saving frame design and fabricated alloy steel drum fit easily into tight spaces
- Variable drum length and wire rope storage for special applications
- Standard operating temperature range is 0°C through 60°C.
- Minimum 18:1 drum diameter to wire rope diameter ratio reduces wire rope wear.
- Longer drum lengths and taller flanges provide greater wire rope storage

■ Options and accessories:

- Optional enclosed oil bath "wet" disc brake is fully sealed for protection against salt spray, dirt and moisture, providing trouble-free operation over thousands of lifting cycles. A disc brake is standard on the FA10.
- Automatic band brakes
- Variable drum lengths 8" to 50" (203 to 1067 mm)



FA5

- Grooved drums
- Drum divider flange
- Drum guard
- Limit switch
- Drum lock
- Construction cage
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Tensioning manifold
- Air preparation packages: filter, regulator, lubricator, liquidator, and strainer
- Electric over air remote control allows for virtually unlimited pendent length
- Air operated remote controls
- Muffler
- Hydraulic models
- Third party certifications for low temperature applications
- Special winches for refinery decoking applications
- FA7T Guideline (GL) and Podline (PL) winches feature 42" drums, drum locking dogs and marine grade finishes, materials and fasteners. The GL version offers dual controls, and is designed to overhaul. For performance and specification detail, see chart on the following page.

Force 5™ Air Winch Series
4400 to 22000 lb (2000 to 10000 kg) capacity



Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

| Model no. | Utility rating 5:1 design factor top layer | | design factor top layer | | Drum length A | | | Avg. air consumption at rated load @ 90 psi (6.3 bar) | | Maximum stall pull 1st layer | | Pipe inlet size | | Hose size | | Ship weight | |
|-----------|--|-------|-------------------------|-------|---------------|------|-----|---|---------------------|------------------------------|-------|-----------------|----|-----------|----|-------------|------|
| | lbs | kg | fpm | m/min | in. | mm | hp | scfm | m ³ /min | lbs | kg | in. | mm | in. | mm | lbs | kg |
| FA2-24 | 4400 | 2000 | 47 | 14 | 24 | 610 | 9.4 | 335 | 9.5 | 9000 | 4091 | 1 1/4 | 32 | 1 1/4 | 32 | 825 | 374 |
| FA2.5-24 | 5000 | 2273 | 132 | 40 | 24 | 610 | 25 | 700 | 19.9 | 10000 | 4545 | 1 1/4 | 32 | 1 1/2 | 38 | 1061 | 481 |
| FA5-24 | 11000 | 5000 | 54 | 16 | 24 | 610 | 25 | 700 | 19.9 | 24000 | 10909 | 1 1/4 | 32 | 1 1/2 | 38 | 1872 | 849 |
| FA5T-24 | 8400 | 3818 | 70 | 21 | 24 | 610 | 25 | 700 | 19.9 | 24000 | 10909 | 1 1/4 | 32 | 1 1/2 | 38 | 2153 | 977 |
| FA7-24 | 15400 | 7000 | 40 | 12 | 24 | 610 | 25 | 750 | 21.3 | 36000 | 16364 | 1 1/4 | 32 | 1 1/2 | 38 | 2205 | 1000 |
| FA7T-24 | 12600 | 5727 | 48 | 15 | 24 | 610 | 25 | 750 | 21.3 | 36000 | 16364 | 1 1/4 | 32 | 1 1/2 | 38 | 2335 | 1059 |
| FA7TGL-42 | 3400 | 1545 | 152 | 46 | 42 | 1067 | 25 | 750 | 21.3 | 10000 | 4545 | 1 1/4 | 32 | 1 1/2 | 38 | 2981 | 1352 |
| FA7TPL-42 | 10200 | 4636 | 60 | 18 | 42 | 1067 | 25 | 750 | 21.3 | 36000 | 16364 | 1 1/4 | 32 | 1 1/2 | 38 | 2850 | 1293 |
| FA10-24 | 22000 | 10000 | 23 | 7 | 24 | 610 | 31 | 800 | 22.7 | 38000 | 17273 | 1 1/4 | 32 | 1 1/2 | 38 | 3200 | 1451 |

Note: Adding "-E" to model states compliance with European Machinery Directive. See the Air Winch Selection Guide for explanation of compliance.

Drum wire rope storage capacities⁽¹⁾

| Model | Capacity | | Recommended wire rope size | | Drum length | | Rope diameter | | | | | | | | | | | | | | | |
|-------|----------|-------|----------------------------|-------|-------------|------|---------------|-----|--------------|-----|--------------|------|--------------|------|------------|-----|----------------|-----|--|--|--|--|
| | lbs | kg | in. | mm | in. | mm | 1/2" (13 mm) | | 5/8" (16 mm) | | 3/4" (19 mm) | | 7/8" (22 mm) | | 1" (25 mm) | | 1 1/8" (29 mm) | | | | | |
| | | | | | ft | m | ft | m | ft | m | ft | m | ft | m | ft | m | ft | m | | | | |
| FA2 | 4400 | 2000 | 1/2 | 13 mm | 8 | 203 | 388 | 118 | 266 | 81 | | | | | | | | | | | | |
| | | | | | 12 | 305 | 594 | 181 | 410 | 125 | | | | | | | | | | | | |
| | | | | | 16 | 406 | 801 | 244 | 554 | 169 | | | | | | | | | | | | |
| | | | | | 24 | 610 | 1214 | 370 | 843 | 257 | | | | | | | | | | | | |
| FA2.5 | 5000 | 2273 | 5/8 | 16 mm | 8 | 203 | | | 266 | 81 | | | | | | | | | | | | |
| | | | | | 12 | 305 | | | 410 | 125 | | | | | | | | | | | | |
| | | | | | 16 | 406 | | | 554 | 169 | | | | | | | | | | | | |
| | | | | | 24 | 610 | | | 843 | 259 | | | | | | | | | | | | |
| FA5 | 11000 | 5000 | 3/4 | 19 mm | 16 | 406 | | | 1181 | 360 | 746 | 227 | 544 | 166 | | | | | | | | |
| | | | | | 24 | 610 | | | 1795 | 547 | 1138 | 347 | 832 | 254 | | | | | | | | |
| | | | | | 30 | 762 | | | 2256 | 688 | 1431 | 433 | 1047 | 319 | | | | | | | | |
| | | | | | 36 | 915 | | | | | 1682 | 512 | 1204 | 367 | | | | | | | | |
| FA5T | 8400 | 3818 | 3/4 | 19 mm | 24 | 610 | | | | | 2564 | 761 | 1841 | 561 | | | | | | | | |
| | | | | | 30 | 762 | | | | | 3225 | 983 | 2318 | 706 | | | | | | | | |
| | | | | | 36 | 915 | | | | | 3887 | 1185 | 2796 | 852 | | | | | | | | |
| | | | | | 24 | 610 | | | | | 1640 | 500 | 1059 | 323 | 786 | 240 | | | | | | |
| FA7 | 15400 | 7000 | 7/8 | 22 mm | 30 | 762 | | | | | 2063 | 629 | 1334 | 406 | 991 | 302 | | | | | | |
| | | | | | 36 | 915 | | | | | 2486 | 758 | 1608 | 493 | 1196 | 365 | | | | | | |
| | | | | | 24 | 610 | | | | | 2669 | 813 | 1917 | 584 | 1538 | 469 | | | | | | |
| | | | | | 30 | 762 | | | | | 3358 | 1023 | 2414 | 736 | 1940 | 591 | | | | | | |
| FA7T | 12600 | 5727 | 7/8 | 22 mm | 36 | 915 | | | | | 4047 | 1233 | 2912 | 887 | 2311 | 713 | | | | | | |
| | | | | | 42 | 1067 | | | | | 4736 | 1443 | 3409 | 1039 | 2742 | 836 | | | | | | |
| | | | | | 24 | 610 | | | | | 2488 | 758 | 1962 | 598 | 1332 | 405 | 1026 | 313 | | | | |
| | | | | | 30 | 762 | | | | | 3130 | 954 | 2471 | 753 | 1679 | 511 | 1295 | 395 | | | | |
| FA10 | 22000 | 10000 | 1 1/8 | 29 mm | 36 | 915 | | | | | 3773 | 1150 | 2980 | 908 | 2027 | 617 | 1564 | 477 | | | | |
| | | | | | 40 | 1016 | | | | | 4201 | 1280 | 3319 | 1011 | 2258 | 688 | 1744 | 531 | | | | |
| | | | | | 50 | 1270 | | | | | 5271 | 1606 | 4168 | 1270 | 2837 | 865 | 2192 | 668 | | | | |
| | | | | | 24 | 610 | | | | | | | | | | | | | | | | |

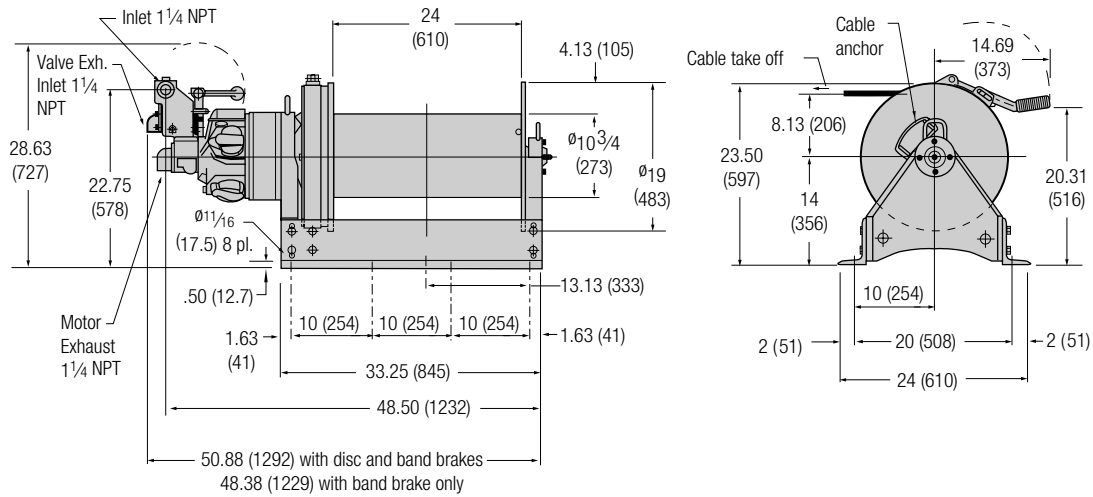
(1) Capacities meet ANSI-ASME B30.7 which requires 1/2" (13 mm) minimum clear flange above last layer. Capacities represent tightly wound wire rope. Recommended working capacity is 80% of values shown.

Force 5™ Air Winch Series
4400 to 22000 lb (2000 to 10000 kg) capacity

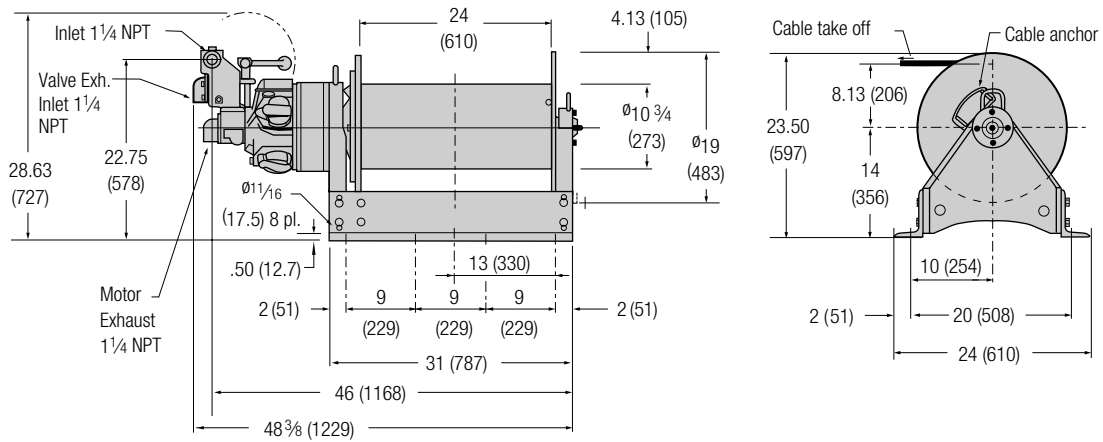


Dimensions

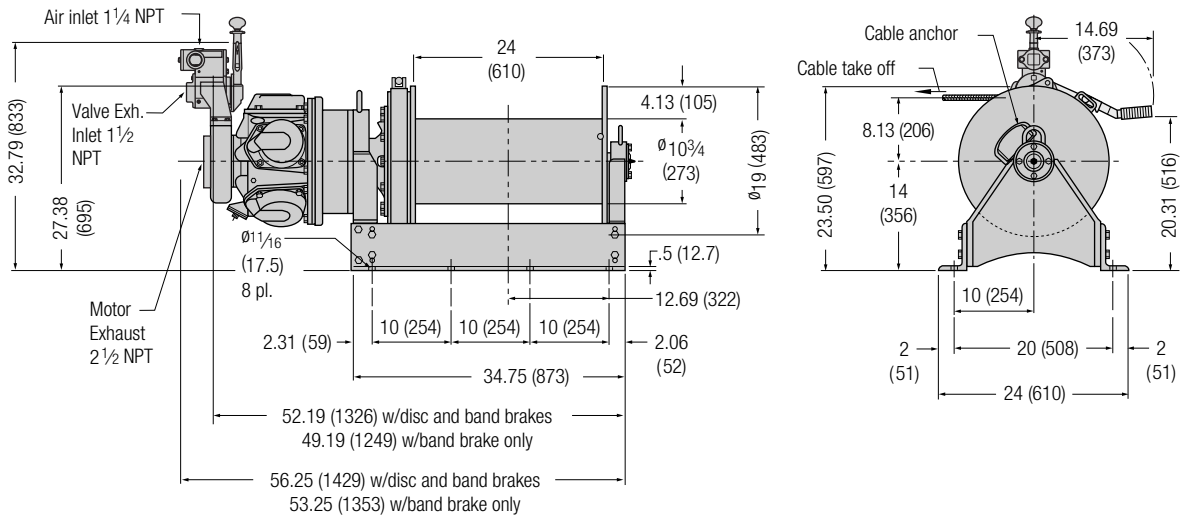
FA2-24 with disc and band brakes or band brake only in inches (mm)



FA2-24 with disc brake only in inches (mm)



FA2.5-24 with disc and band brakes or band brake only in inches (mm)



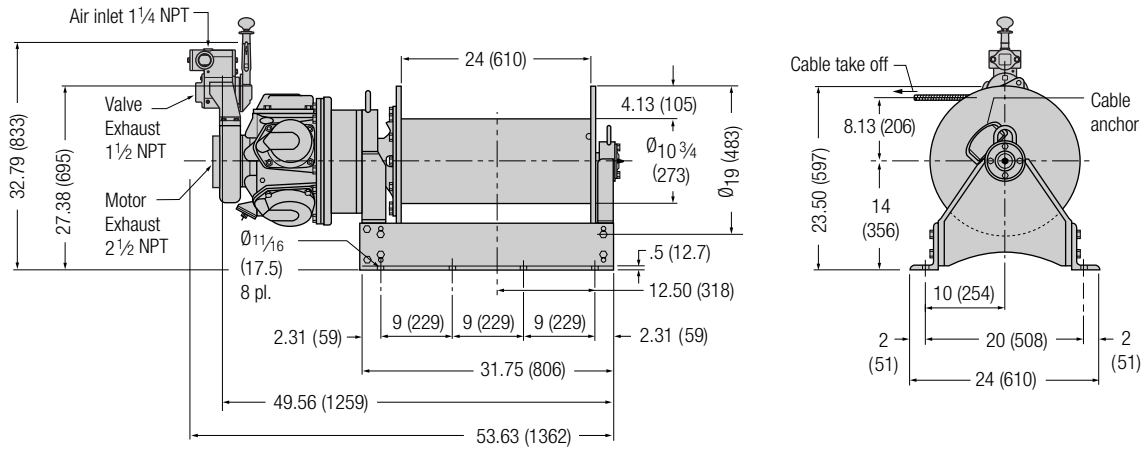
Dimensions are subject to change. Contact factory for certified prints

Force 5™ Air Winch Series
4400 to 22000 lb (2000 to 10000 kg) capacity

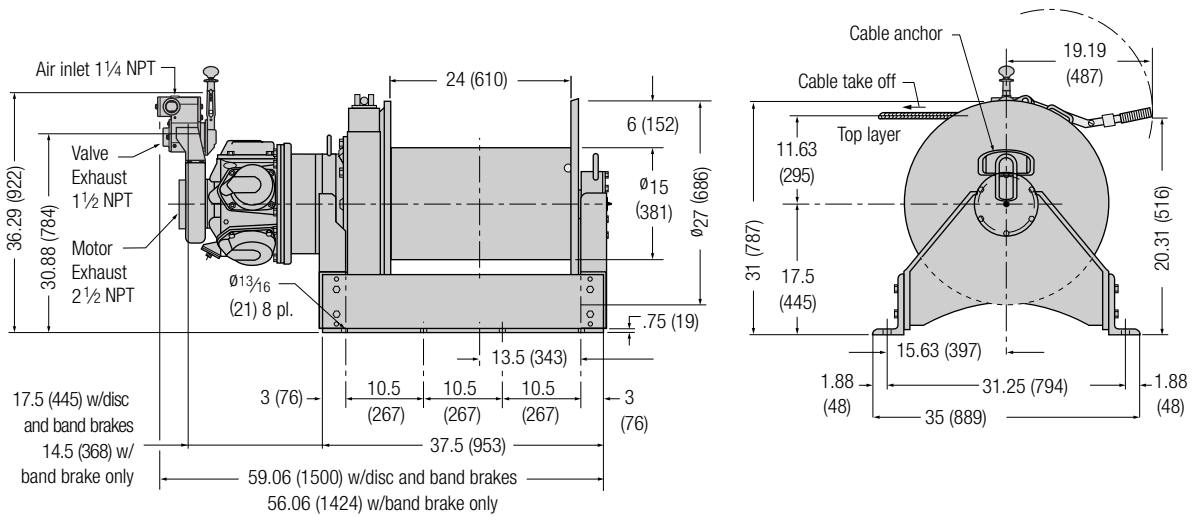


Dimensions

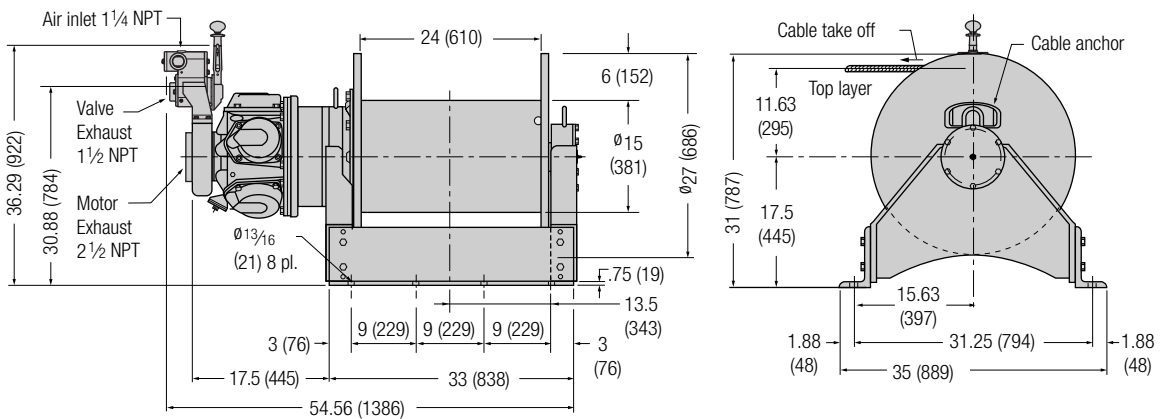
FA2.5-24 with disc brake only in inches (mm)



FA5-24 with disc and band brakes or band brake only in inches (mm)



FA5-24 with disc brake only in inches (mm)



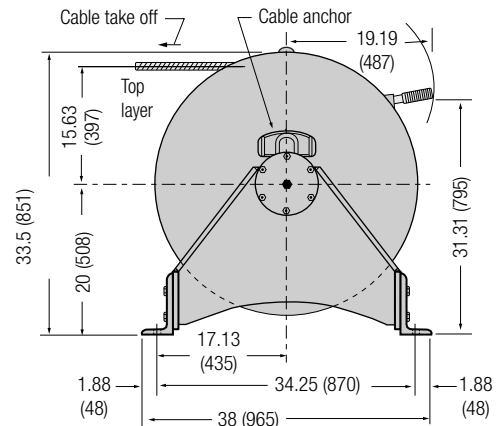
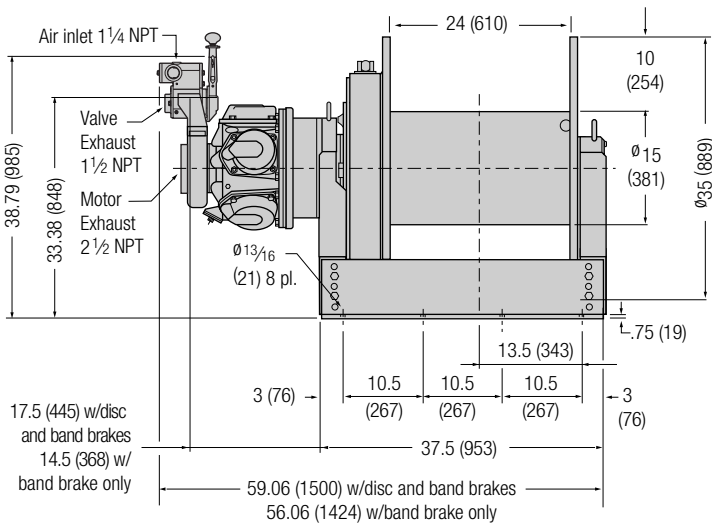
Dimensions are subject to change. Contact factory for certified prints

Force 5™ Air Winch Series
4400 to 22000 lb (2000 to 10000 kg) capacity

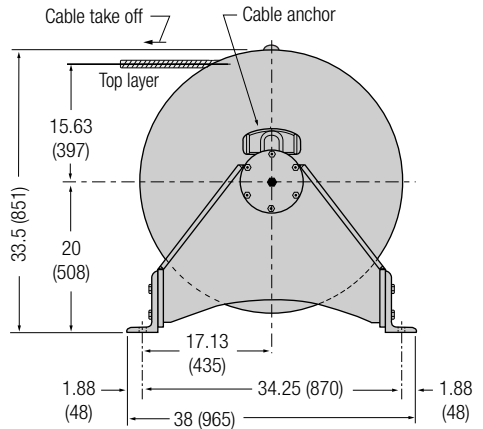
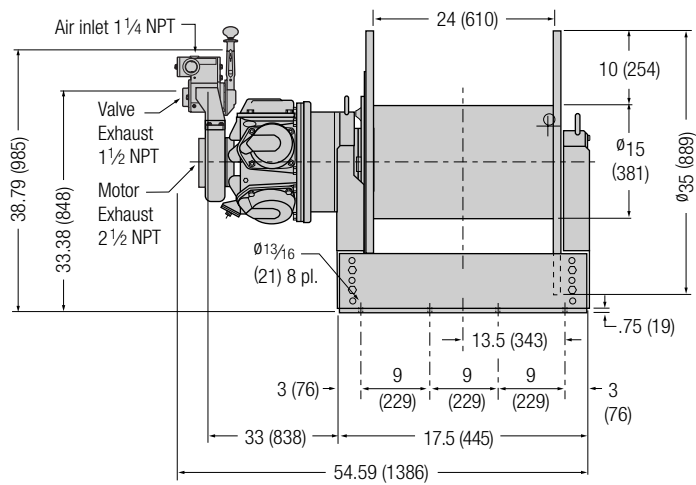


Dimensions

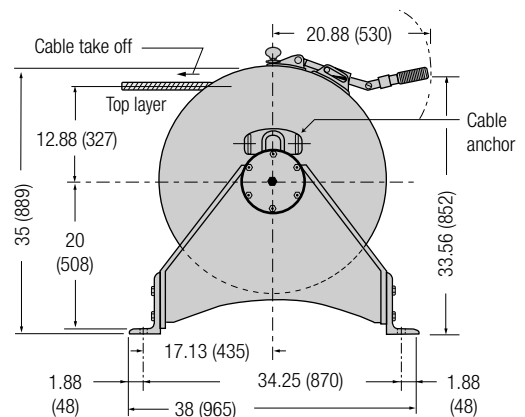
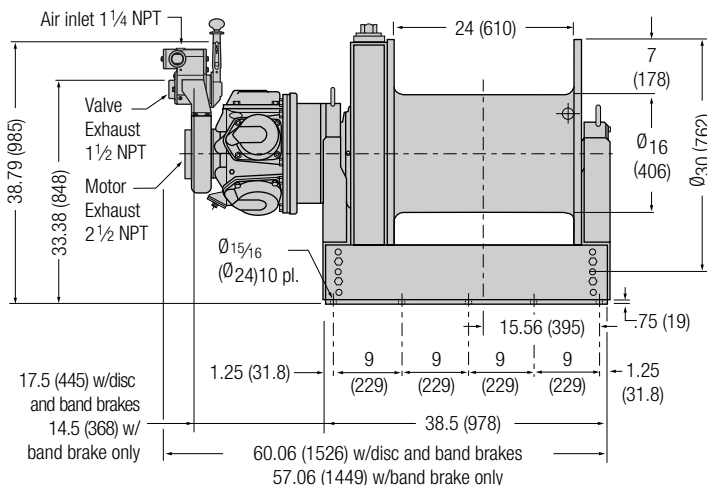
FA5T-24 with disc and band brakes or band brake only in inches (mm)



FA5T-24 with disc brake only in inches (mm)



FA7-24 – Popeye Junior – with disc and band brakes or band brake only in inches (mm)



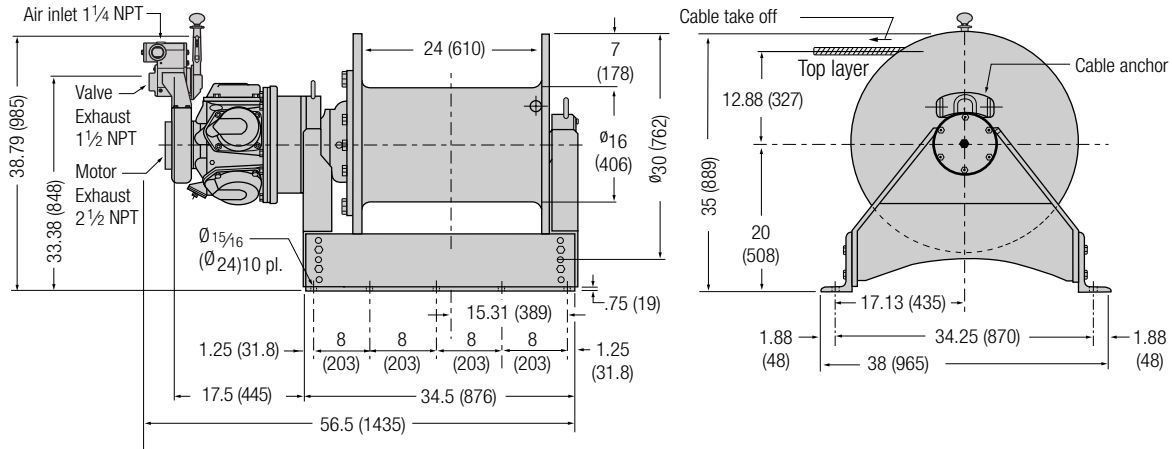
Dimensions are subject to change. Contact factory for certified prints

Force 5™ Air Winch Series
4400 to 22000 lb (2000 to 10000 kg) capacity

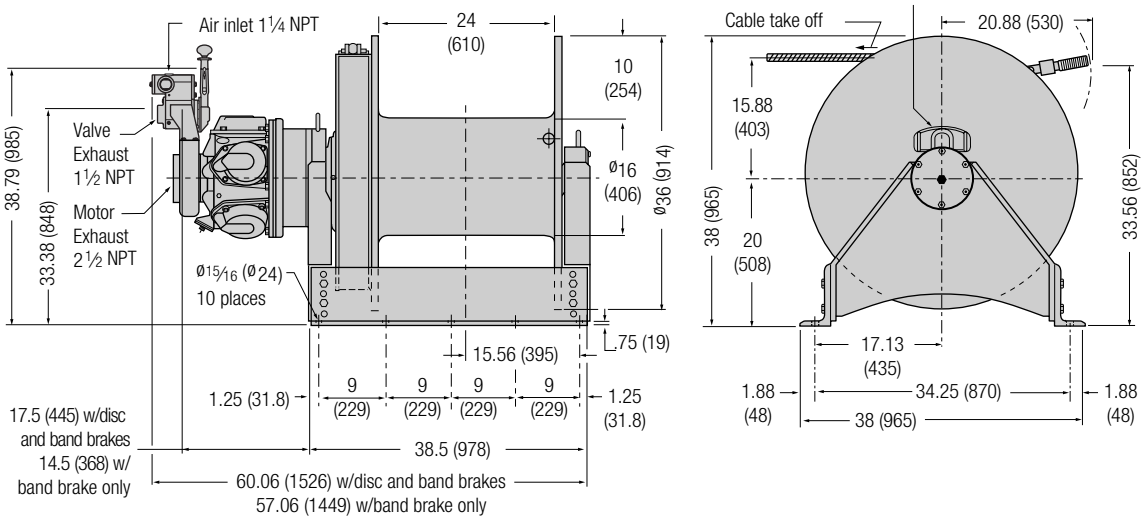


Dimensions

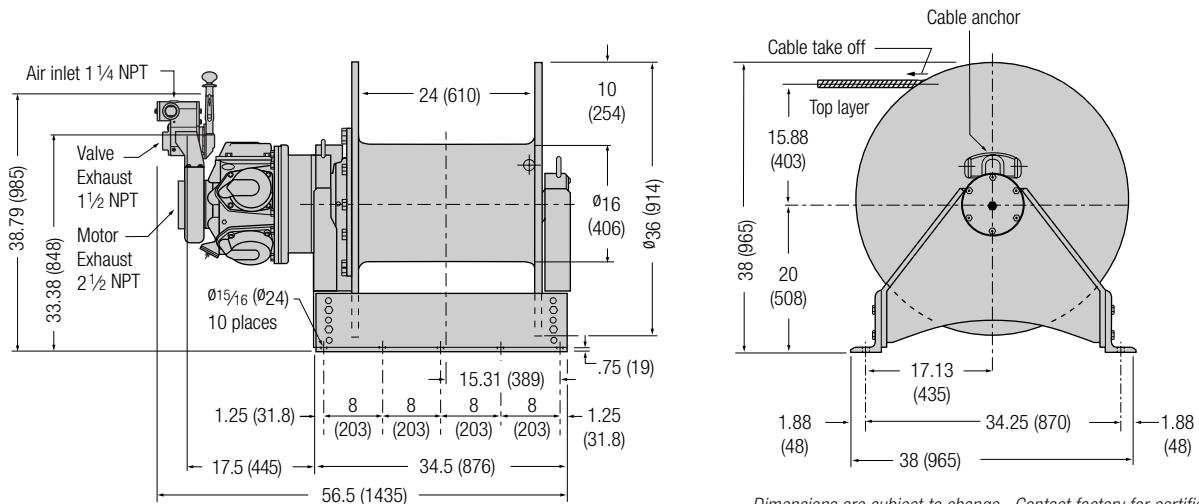
FA7-24 – Popeye Junior – with disc brake only in inches (mm)



FA7T-24 – Popeye Junior – with disc and band brakes or band brake only in inches (mm)



FA7T-24 – Popeye Junior – with disc brake only in inches (mm)



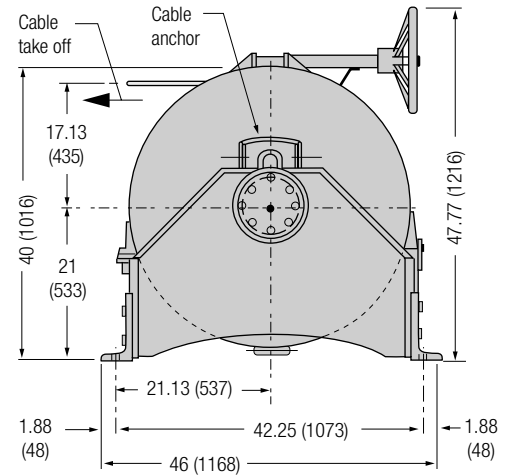
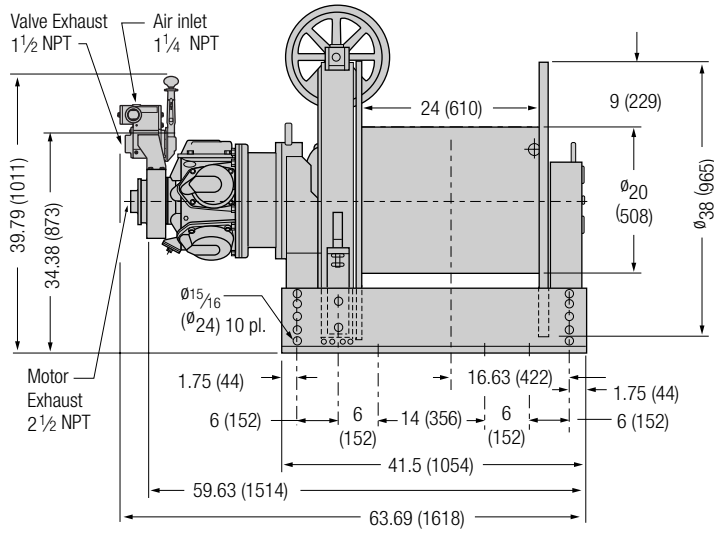
Dimensions are subject to change. Contact factory for certified prints

Force 5™ Air Winch Series
4400 to 22000 lb (2000 to 10000 kg) capacity

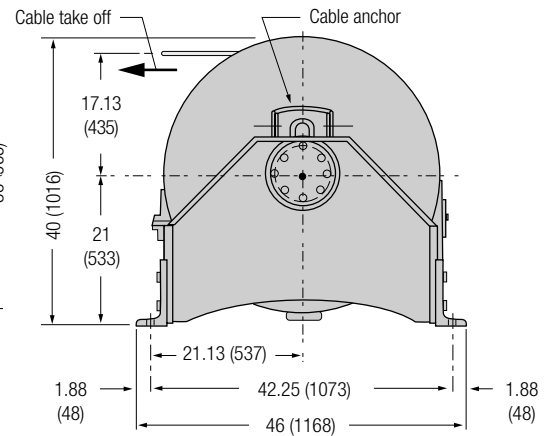
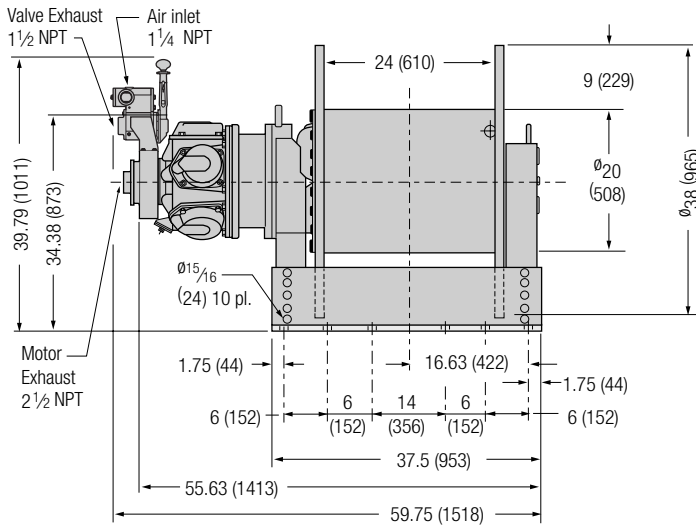


Dimensions

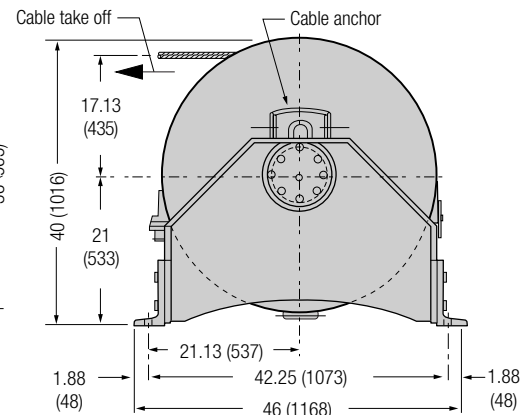
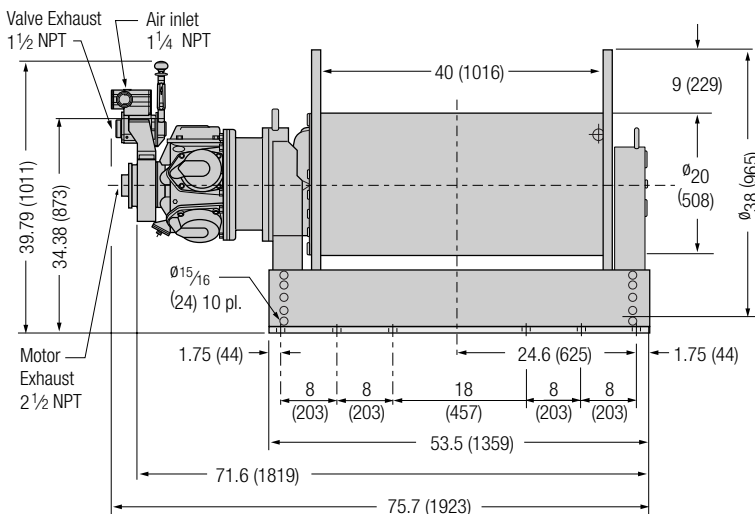
FA10-24 – Popeye – with disc and band brakes or band brake only in inches (mm)



FA10-24 – Popeye – with disc brake only in inches (mm)



FA10-40 – Popeye – with disc brake only in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Force 5™ Air Winch Series

4400 to 22000 lb (2000 to 10000 kg) capacity



How to Order:

Specify complete model code as shown. To order options, use the option code in the option table and add as a suffix to the model code. To order a Force Five air winch with a non-standard drum length, refer to the available drum lengths provided in the drum length table below. Enter the desired drum length for each winch in the drum length section of the model code. To order accessories such as filters and lubricators, please enter these as separate accessory items by part number in the air winch accessories table below.

Example: FA5-24MX1P

| Series | Capacity | Drum flange ht | Drum length | Drum brake | Disc brake | Control | Options (see Option Notes) |
|---|---|----------------|--|--|------------|----------|--|
| FA | 5 | - | 24 | M | X | 1 | P |
| 2 = 4400 lbs (2000 kg) 2.5 = 5000 lbs (2273 kg) 5 = 11000 lbs (5000 kg) 5T = 8400 lbs (3818 kg) 7 = 15400 lbs (7000 kg) 7T = 12600 lbs (5727 kg) 10 = 22000 lbs (10000 kg) | | | 24 = 24" (610 mm) between flanges. See drum length chart below. | K = Auto disc brake X = No auto disc brake A = Auto drum brake M = Manual drum brake X = No drum brake | | | 7 = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") ⁽²⁾ C = Low temperature; please specify in text: -10° C or -20° C D = Drum divider flange and additional cable anchor ⁽³⁾ E = Construction cage G = Drum guard L = Drum locking pin M1 = Per DIN 50049/En10204 Para 2.2 "Typicals" ⁽⁴⁾ M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased ⁽⁴⁾ M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition ⁽⁴⁾ N = Type approval; please specify in text: DNV, ABS or Lloyds P = Marine 812 finish Q = Special paint; please specify S = Rotary limit switch (upper and lower) T = Tensioning manifold U = Underwound (available only with autodisc brake XX) V = Press roller W = Witness; please specify X = Testing; please specify Z = Sandblast and carbozinc primer only -E = Compliance with the European Machinery Directive (includes emergency stop and overload protection). Insert at end of model code. |
| Force Five FA = Air powered FH = Hydraulic powered | - = Std flange height T = Tall flange (FA5T and FA7T only) | | 1 = Standard winch mounted throttle 2XX = Remote full flow lever throttle (max 20 ft/6 m) 3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) ⁽¹⁾ 4XX = Remote pilot lever throttle (max 66 ft/20 m) ⁽¹⁾ 5XX = Remote electric over air throttle XX = Specify hose length or pendent cord in feet | | | | |
| <p>Notes:</p> <p>All Force 5 units come with standard six (6) strand wire rope anchor and winding directions for right hand overwind.</p> <p>Option Notes:</p> <p>(1) With remote pilot control option, line speeds will decrease.</p> <p>(2) Number designates drum grooving. Number equals wire rope size in sixteenths. The standard will be based on a right hand overwind rotation and spiral grooving for the recommended size of wire rope for the standard length of drum only. Grooving involving longer or shorter drums, or drums equipped with a divider flange will be an engineered item with longer lead time.</p> <p>(3) D = drum divider flange. The standard will be based on right hand over wind rotation. Two steel flanges are welded to the center of the drum. This provides the motor side of the drum (half) with a rope anchor. Anchor locations must be specified by the customer.</p> <p>(4) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest Ingersoll-Rand distributor for information.</p> <p>M1 Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.)</p> <p>M2 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.)</p> <p>M3 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)</p> <p>Overload devices and drum revolution counters are available as engineered specials, with extended lead times.</p> | | | | | | | |

| Model | Drum length available | | | | | | | | | |
|-----------------|-----------------------|----------|----------|----------|-----------------|----------|----------|-----------|-----------|-----------|
| | Drum width in. (mm) | | | | | | | | | |
| | 8 (203) | 12 (305) | 16 (406) | 20 (508) | 24 (610) | 30 (762) | 36 (915) | 40 (1016) | 42 (1067) | 50 (1270) |
| FA2 | yes | yes | yes | yes | Standard | yes | yes | special | special | special |
| FA2.5 | yes | yes | yes | yes | Standard | yes | yes | special | special | special |
| FA5/FA5T | no | yes | yes | yes | Standard | yes | yes | special | special | special |
| FA7/FA7T | no | no | yes | yes | Standard | yes | yes | yes | yes | special |
| FA10 | no | no | yes | yes | Standard | yes | yes | yes | yes | yes |

Contact factory for lengths other than shown.

For air line accessories — filters, regulators, lubricators, liquidators and strainers — please see the Accessories section.

Force 5™ “Guideline and Podline” Air Winches FA7TGL 3400 lb (1545 kg) FA7TPL 10200 lb (4636 kg)



As offshore oil drilling heads into deeper waters, IR Guideline and Podline winches are prepared to follow.

■ These specially configured versions of the “Popeye Junior” tall flange air winch feature:

- Top layer ratings insure “lift at any layer” capability
- 42 inch (1067 mm) drum flange height and length for maximum cable capacity. Other drum flange sizes are available.
- Corrosion resistant marine grade coating system: Sandblast to white metal finish and carbozinc primer with a Marine 812 finish.
- With T-handle, bullet nose, and grease points, the stainless steel locking dog is easy to operate, trouble free, and maintenance friendly.
- Winch mounted throttle for precise load control; remote control is optional.
- **Internal** automatic disc brake is protected from the elements.



■ Specific to the FA7TGL Guideline winch:

- A lower gear ratio and switching valve arrangement with pressure regulator preset for unmanned lowering of sub-sea equipment.
- Simply flipping a lever switches the winch from utility to guide line mode. In this mode, the winch can be overhauled at speeds up to 90 fpm (28 m/min).
- In guide line mode, a pressure regulator can be set to adjust the tension.

Specifications at rated load: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

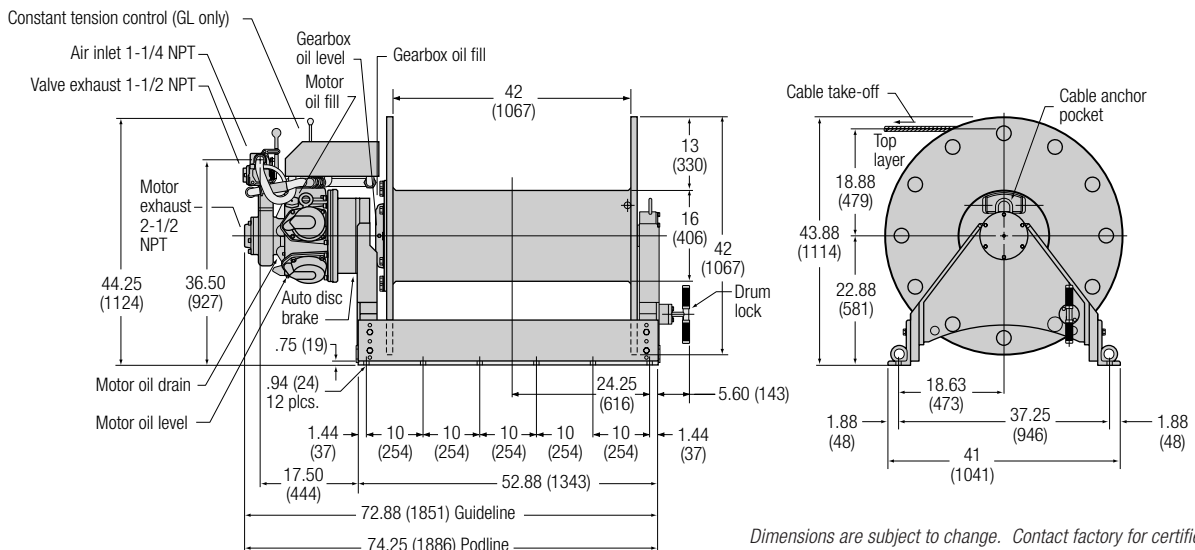
| Model no. | Lift Ratings | | | Average speed | Stall | Avg. air consump. at rated load | Inlet pipe size | Ship weight | Wire rope storage capacity | | |
|--------------------------------|-----------------------|----------------------|----------------------|----------------------|-----------------------|---------------------------------|--------------------------|---------------------|----------------------------|-------------------|-------------------|
| | First | Mid | Top | | | | | | 5/8" (15 mm) | 3/4" (19 mm) | 7/8" (22 mm) |
| FA7TGL42 (Guideline) | 7800 lbs 3545 kg | 4850 lbs 2205 kg | 3400 lbs 1545 kg | 102 fpm 22 m/min | 10000 lbs 4545 kg | 750 scfm 21.3 m³/min | 1 1/4" NPT 1 1/4" NPT | 2981 lbs 1352 kg | 10372 ft 3161 m | 7480 ft 2280 m | 5262 ft 1604 m |
| FA7TPL42 (Podline) | 22800 lbs 10364 kg | 14300 lbs 6500 kg | 10200 lbs 4636 kg | 45 fpm 13.8 m/min | 36000 lbs 16364 kg | 750 scfm 21.3 m³/min | 1 1/4" NPT 1 1/4" NPT | 2850 lb 1293 kg | not recommended | 7480 ft 2280 m | 5262 ft 1604 m |

Wire rope storage capacity*

| Model no. | 1/2 in. (13 mm) | 5/8 in. (15 mm) | 3/4 in. (19 mm) | 7/8 in. (22 mm) | 1 in. (25 mm) | Wire rope breaking strngth | 1/2 in. (13 mm) | 5/8 in. (15 mm) | 3/4 in. (19 mm) | 7/8 in. (22 mm) | 1 in. (25 mm) |
|-----------------|--------------------|--------------------|--------------------|--------------------|-------------------|-------------------------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | FA7TGL42 | 16005 ft 4880 m | 10347 ft 3155 m | 6865 ft 2093 m | 5237 ft 1597 m | | 3937 ft 1200 m | 26600 lbs 12091 kg | 41200 lbs 18727 kg | 58800 lbs 26727 kg | 79600 lbs 36182 kg |
| FA7TPL42 | not recommended | | 6865 ft 2093 m | 5237 ft 1597 m | 3937 ft 1200 m | Wt per ft Wt per m | 0.46 lbs 0.69 kg | 0.72 lbs 1.07 kg | 1.04 lbs 1.55 kg | 1.42 lbs 2.12 kg | 1.85 lbs 2.76 kg |

* Capacities represent tightly wound wire rope. Recommended working capacity is 80% of values shown.

Dimensions: inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Accu-Spool™ Level Wind

3400 to 22000 lbs (1545 to 10000 kg) capacity

Setting the standards in level wind technology: a totally self-compensating level wind for precise and continuous spooling of wire rope or cable. Never needs adjustment.

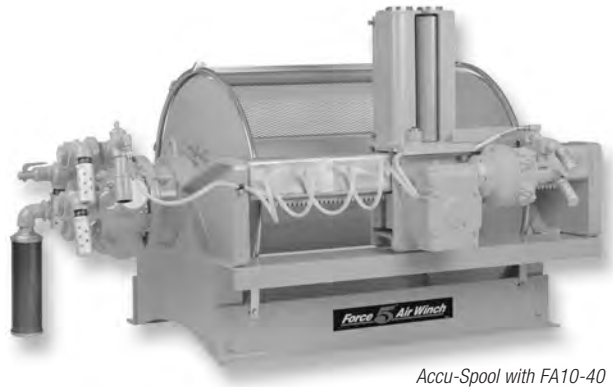
Available as optional equipment for IR manufactured winches or as a retrofit for winches and cable reels of other manufacturers. No attachment to existing winch is required. Retrofit unit is a free-standing design, which can fit any winch or cable reel, etc.

How It Works:

The IR Accu-Spool level wind is universally adaptable to the entire Force 5 air winch line and to winches produced by other manufacturers. When winch fleet angles exceed 2 degrees, wire rope spooling becomes difficult. The IR Accu-Spool level wind will spool the rope uniformly and repeatedly on the drum in applications where fleet angles vary from 0 to 26 degrees.

Standard features:

- Rack and pinion drive resists wear from corrosive elements when compared with diamond screw type level winds
- No gear interlocks or drive chains to wear, corrode or get out of adjustment
- Durable radial piston air motor provides independent power source
- No drive attachment to the winch is required
- Bronze worm drive and steel worm gear
- Steel guide bar and guide rollers
- Heavy duty rack and pinion drive allows for precise, continuous spooling and reduced wire rope wear
- Totally self-compensating and adjusting. The design overcomes the timing problems inherent in diamond screw types of level winds



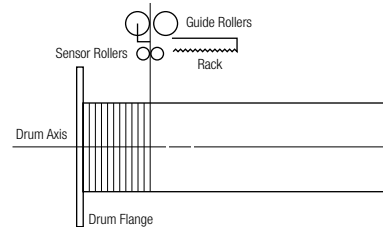
Accu-Spool with FA10-40

- Compensates for fleet angles up to 26°
- Allows wire rope take off in almost any direction
- Emergency manual override on control systems is standard
- Line tension of approximately 5% of actual load is required to activate the Accu-Spool

The main components are:

1. Guide bar: alloy steel tube with rack and pinion drive
2. Guide system: steel guide rollers, worm gear drive and radial piston air motor

The Accu-Spool's sensor rollers keep the level wind axis and drum perpendicular to the wire rope on the drum. When the winch line pull pressure is applied to the sensor roller, the roller will activate linkage that opens the motor valve, driving the level wind in the appropriate direction to spool the wire rope evenly on the drum.



Specifications: 90 psi (6.3 bar)⁽¹⁾

| Force-5 model | Winch capacity (tons) | Accu-Spool model air | Standard drum length | | Avg. air consumption required | |
|-----------------------|-----------------------|----------------------|----------------------|-----|-------------------------------|---------------------|
| | | | in. | mm | cfm | m ³ /min |
| FA2 | 2 | ASA2 | 24 | 610 | 55 | 1.6 |
| FA2B ⁽²⁾ | 2 | ASA2 | 24 | 610 | 55 | 1.6 |
| FA2.5 | 2.5 | ASA2 | 24 | 610 | 55 | 1.6 |
| FA2.5A ⁽²⁾ | 2.5 | ASA2 | 24 | 610 | 55 | 1.6 |
| FA5(T) | 5 | ASA5 | 24 | 610 | 55 | 1.6 |
| FA5A ⁽²⁾ | 5 | ASA5 | 24 | 610 | 55 | 1.6 |
| FA7(T, PL, GL) | 7 | ASA7 | 24 | 610 | 55 | 1.6 |
| FA10 | 10 | ASA10 | 24 | 610 | 55 | 1.6 |

(1) Performance is based on 90 psi (6.3 bar) air inlet pressure with motor running. Level wind will increase overall length of the winch by approx. 4 inches (102 mm).

(2) Not available on units with automatic disc brake.

Maximum fleet angle for Accu-Spool models is 26°. See "The importance of fleet angle" in the Tech Tips section.

Determining rope take off: If required, the Accu-Spool level wind can be provided to work through a designated range of rope take off angles. Specify your needs accordingly.

How to special order:

Please provide the following information:

1. Total line pull
2. Wire rope or cable size
3. Fleet angle
4. Rope take off direction (e.g. horizontal, vertical or other angle)
5. Potential clearance problems, maximum envelope size
6. Type and size of foundation (platform, concrete base, etc)
7. Power source (air, electric or hydraulic)
8. Drum width
9. Drum diameter

Components for OEM purchase (complete less mounting frame):

1. Support tube with rack
2. Drive package: includes motor, valve, and gearing (assembled)

Force 5™ “Offshore” Man Rider™ Series

330 to 6870 lb (150 to 3117 kg) capacity

Known worldwide as the standard for meeting the toughest personnel lifting requirements in the offshore industry.

Dual rated for personnel and utility lifting applications, these winches have Type Approval or Independent Review certificates issued by the classification societies of ABS, DNV or LRS. Meet NPD, NMD and UK HSE regulations for personnel lifting operations. Oil field tough to weather the harsh environments in marine applications.

Definitions

■ **Third party:** An independent certifying agency that offers formalized review and approval programs for Man Rider winches accepted for suitability to lift personnel. Recognized third party agencies are:

- American Bureau of Shipping (ABS)
- Det Norske Veritas (DNV)
- Lloyd’s Register of Shipping (LRS)

■ **Type Approval:** A comprehensive design review by an independent third party which examines the intended service and application, winch ratings, design calculations of load bearing components, product specifications and service restrictions or limitations. A plant survey is also conducted to verify that quality control procedures and features are adequate and consistent. Upon successful completion, a **Type Approval** certificate is issued.

■ **Third Party Certification:** A review process of quality by an independent third party requested by the customer. Includes:

1. Type Approval certificate (design)
2. Third party survey during manufacturing (quality)
3. Third party witness of performance testing (quality)
4. Issuance of certificates as required by regulatory agency acknowledging compliance.

Standard features:

- Enclosed automatic oil bath “wet” disc brake is fully sealed against salt spray, dirt or moisture and provides trouble-free operation over thousands of lifting cycles.
- Manual drum mounted band brake for additional braking by operator
- Internal gearbox / disc brake combination for superior load control
- Corrosion resistant drum guard supports the weight of a 200 lb/ 91 kg person.



FA150KGMR

- Dual rated 8:1 design factor for manrider rating; 5:1 design factor for utility rating
- Compact, frame and fabricated alloy steel drum fit into tight spaces
- Standard operating temperature range is 0°C through 60°C; optional design temperature of -10°C or -20°C
- Minimum 18:1 drum diameter to wire rope diameter ratio reduces wire rope wear.
- Data book and “Type Approval” certificates available upon request.
- Marine 812 paint system on FA150KGMR models.

Options and accessories:

- Automatic band brakes
- Variable drum lengths
- Grooved drums
- Drum divider flange
- Upper and lower limit switches
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Remote controls
- Air prep package: filter, lubricator, strainer, liquidator and regulator
- Muffler
- Hydraulic models
- Electric-Over-Air remote control pendant for unlimited pendant length
- Third party certifications for low temperature applications

Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

| Model no. | Force 5 MR ratings at top layer | | | | Personnel rating | | Maximum | | Average air | | Pipe | | Hose | | Shipping | |
|---|---------------------------------|------|-------------|------|------------------|------------|---------|-------|-------------|---------------------|-------|----|-------|----|----------|-----|
| | Personnel (1) | | Utility (2) | | avg line speed | stall pull | lbs | kg | scfm | m ³ /min | in. | mm | in. | mm | lbs | kg |
| | lbs | kg | lbs | kg | fpm | m/min | | | | | | | | | | |
| FA150KG12MR-1-E | 330 | 150 | n/a | n/a | 87 | 26 | (3) | (3) | 50 | 1.4 | 0.5 | 13 | 3/4 | 19 | 750 | 340 |
| FA2MR24MK1G | 3180 | 1445 | 4400 | 2000 | 75 | 23 | 9000 | 4090 | 335 | 9.5 | 1 1/4 | 32 | 1 1/4 | 32 | 906 | 411 |
| FA2.5MR24MK1G | 3180 | 1445 | 5000 | 2273 | 159 | 48 | 10000 | 4545 | 700 | 19.9 | 1 1/4 | 32 | 1 1/2 | 38 | 1178 | 534 |
| FA5MR24MK1G | 6870 | 3123 | 11000 | 5000 | 69 | 21 | 24000 | 10909 | 700 | 19.9 | 1 1/4 | 32 | 1 1/2 | 38 | 2020 | 916 |
| Force 5 Third Generation Man Rider Series ratings at mid layer (4) | | | | | | | | | | | | | | | | |
| FA2BMR-MK1G | 2500 | 1136 | 4000 | 1818 | 168 | 51 | 6800 | 3084 | 380 | 10.8 | 1 1/4 | 32 | 1 1/2 | 38 | 786 | 357 |
| FA2.5AMR-MK1G | 3125 | 1420 | 5000 | 2273 | 173 | 53 | 10400 | 4727 | 560 | 15.9 | 1 1/4 | 32 | 1 1/2 | 38 | 905 | 411 |
| FA5AMR-MK1G | 6250 | 2841 | 10000 | 4545 | 102 | 31 | 17000 | 7727 | 600 | 17.0 | 1 1/4 | 32 | 1 1/2 | 38 | 1842 | 837 |

(1) “-E” models for European Union allow one lift capacity rating only; i.e., only personnel lift rating is allowed for both personnel and utility applications.

(2) Utility rating only for those countries that allow dual ratings, e.g. USA.

(3) Per NPD regulations

(4) Third Generation Man Riders are not available in CE format.

Force 5™ “Offshore” Man Rider™ Series

330 to 6870 lb (150 to 3117 kg) capacity



Rope storage for personnel lifting⁽¹⁾

| Model number | Drum length | | 10mm | | Rope diameter | | | |
|-------------------------|-------------|-----|------|-----|---------------|------|------|------|
| | in. | mm | ft | m | 1/2" | 13mm | 3/4" | 19mm |
| FA150KGMR | 8 | 203 | 474 | 144 | — | — | — | — |
| | 12 | 305 | 723 | 220 | — | — | — | — |
| | 16 | 406 | 972 | 296 | — | — | — | — |
| | 24 | 610 | 1470 | 448 | — | — | — | — |
| FA2MR and FA2.5MR | 8 | 203 | — | — | 321 | 97 | — | — |
| | 12 | 305 | — | — | 492 | 150 | — | — |
| | 16 | 406 | — | — | 663 | 202 | — | — |
| | 24 | 610 | — | — | 1006 | 306 | — | — |

| Model number | Drum length | | 10mm | | Rope diameter | | | |
|---------------------------|-------------|-----|------|---|---------------|------|------|------|
| | in. | mm | ft | m | 1/2" | 13mm | 3/4" | 19mm |
| FA5MR | 8 | 203 | — | — | — | — | 235 | 72 |
| | 12 | 305 | — | — | — | — | 365 | 111 |
| | 16 | 406 | — | — | — | — | 495 | 151 |
| | 24 | 610 | — | — | — | — | 755 | 230 |
| FA2BMR and FA2.5AMR | S 7 | 178 | — | — | 198 | 60 | — | — |
| | M 13.5 | 343 | — | — | 396 | 120 | — | — |
| | L 20 | 508 | — | — | 595 | 181 | — | — |
| FA5AMR | R 24 | 610 | — | — | 717 | 218 | — | — |
| | S 12 | 305 | — | — | — | — | 321 | 98 |
| | L 24 | 610 | — | — | — | — | 663 | 202 |

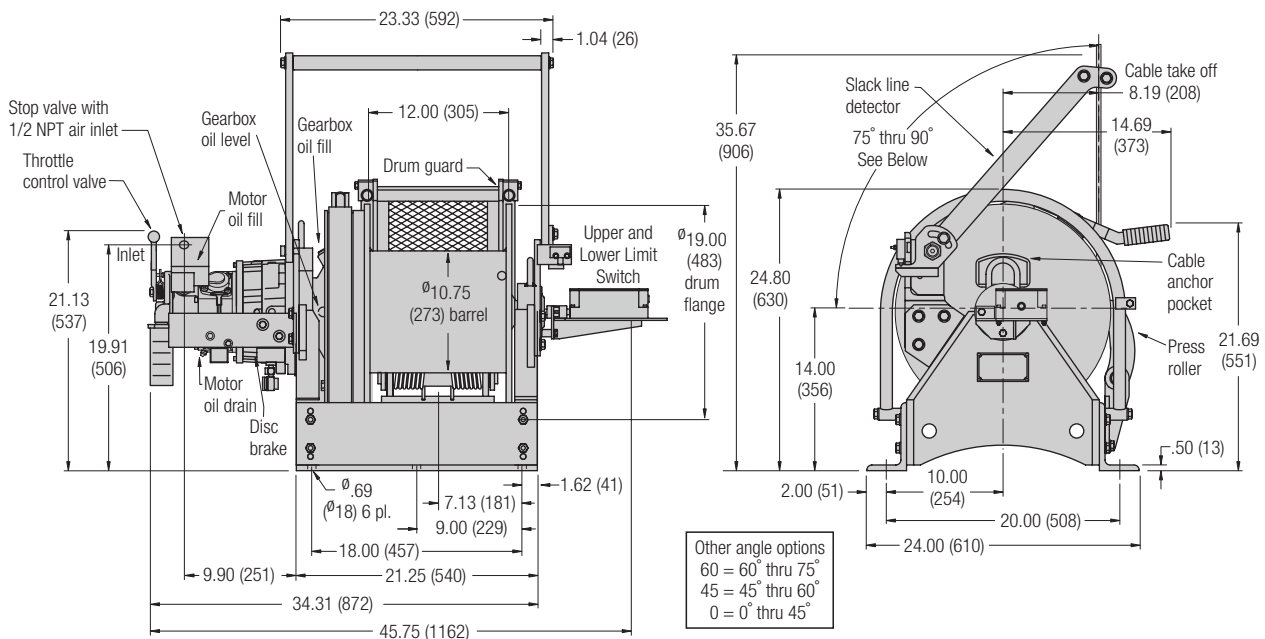
(1) Based on UK HSE standards requiring top layer to be 2 1/2 times the wire rope diameter below drum flange.

Rope speed at mid drum at 90 psi

| Winch series | at 330 lbs (150 kg) | | | | at personnel rating | | | | at utility rating | | | |
|--------------|---------------------|-------|------|-------|---------------------|-------|------|-------|-------------------|-------|------|-------|
| | Up | | Down | | Up | | Down | | Up | | Down | |
| | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min |
| FA150KGMR | 87 | 26 | 100 | 31 | 87 | 26 | 100 | 31 | n/a | n/a | n/a | n/a |
| FA2MR | 121 | 37 | 60 | 18 | 72 | 22 | 125 | 38 | 53 | 16 | 140 | 43 |
| FA2.5MR | 235 | 71 | 125 | 38 | 160 | 49 | 155 | 47 | 113 | 34 | 190 | 58 |
| FA5MR | 94 | 29 | 60 | 18 | 69 | 21 | 55 | 17 | 54 | 16 | 70 | 21 |
| FA2BMR | 253 | 77 | — | — | 160 | 49 | — | — | 102 | 31 | — | — |
| FA2.5AMR | 257 | 78 | — | — | 173 | 53 | — | — | 117 | 36 | — | — |
| FA5AMR | 177 | 54 | — | — | 102 | 31 | — | — | 50 | 15 | — | — |

Dimensions

FA150KGMR with disc and manual brake in inches (mm)



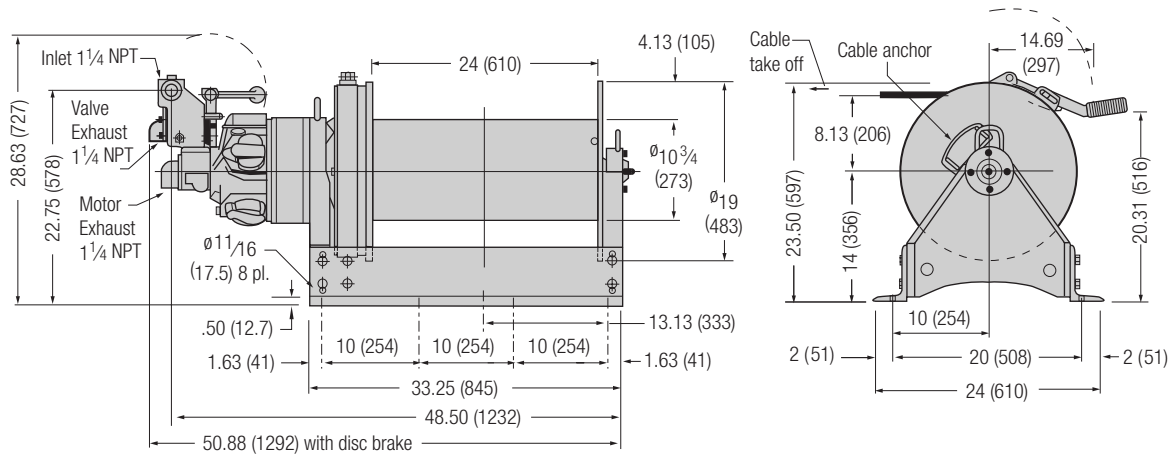
Dimensions are subject to change. Contact factory for certified prints

Force 5™ “Offshore” Man Rider™ Series
330 to 6870 lb (150 to 3117 kg) capacity

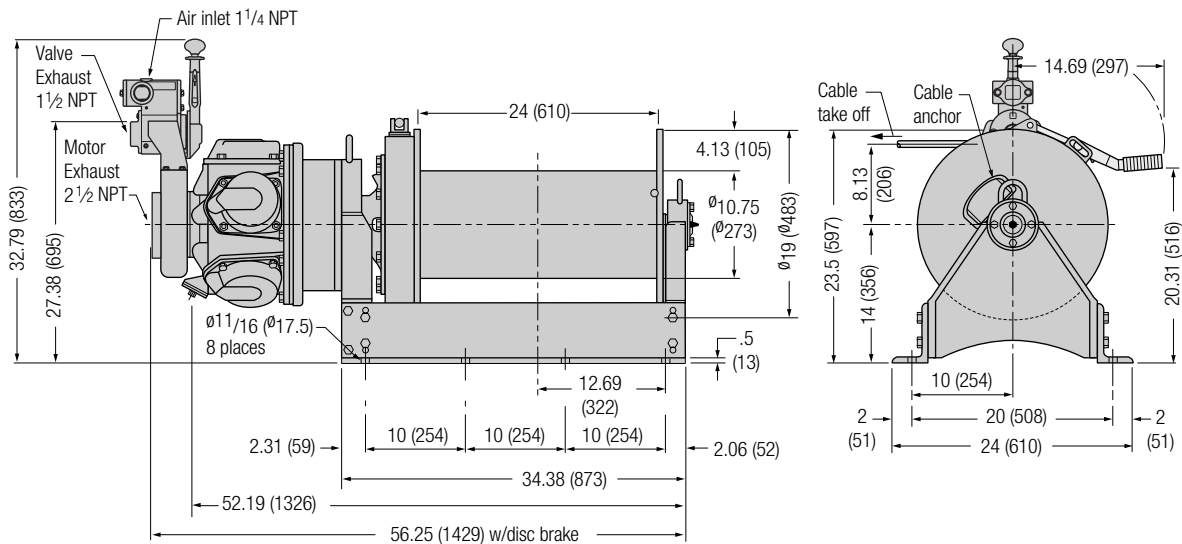


Dimensions

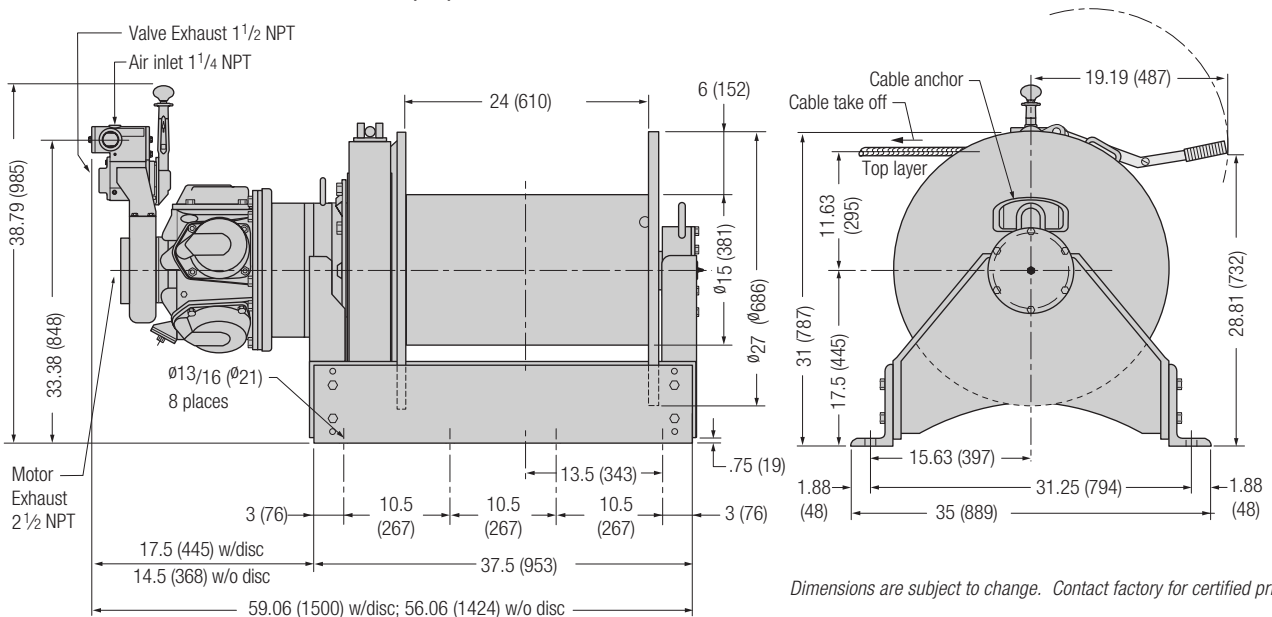
FA2MR24MK1G with disc and manual brake in inches (mm)



FA2.5MR24MK1G with disc and manual brake in inches (mm)



FA5MR24MK1G with disc and manual brake in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Force 5™ "Offshore" Man Rider™ Series

330 to 6870 lb (150 to 3117 kg) capacity



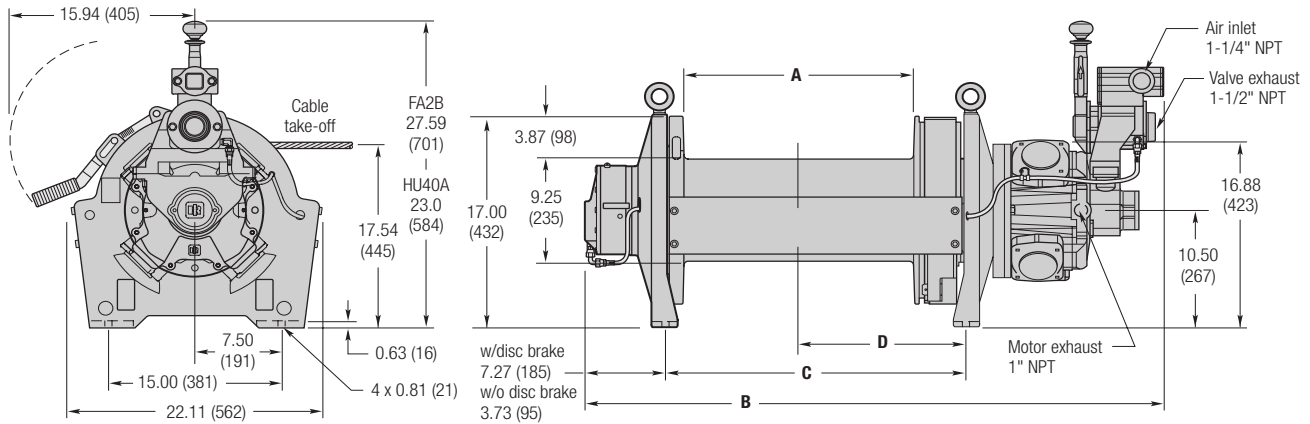
Dimensions

| Model no. | A | | B | | C | | D | |
|--------------|------|-----|------|------|------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm |
| FA2BMR-SMK1G | 7.0 | 178 | 37.4 | 950 | 12.3 | 312 | 7.5 | 191 |
| FA2BMR-MMK1G | 13.5 | 343 | 43.9 | 1115 | 18.8 | 478 | 10.81 | 274 |
| FA2BMR-LMK1G | 20.0 | 508 | 50.4 | 1280 | 25.3 | 643 | 14.0 | 356 |
| FA2BMR-RMK1G | 24.0 | 610 | 54.4 | 1382 | 29.3 | 744 | 16.0 | 406 |

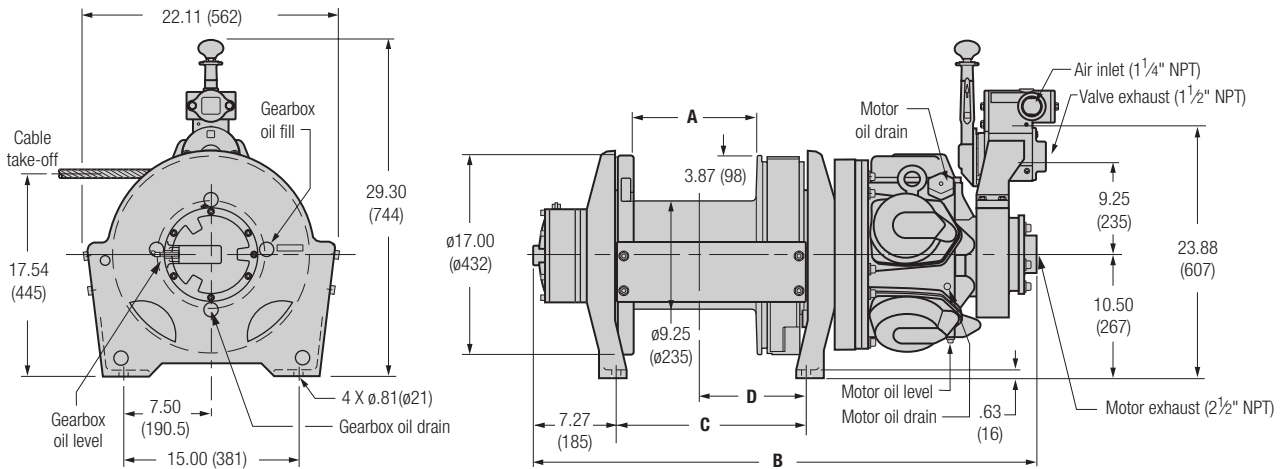
Dimensions

| Model no. | A | | B | | C | | D | |
|----------------|------|-----|-------|------|-------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm |
| FA2.5AMR-SMK1G | 7.0 | 178 | 41.19 | 1046 | 12.31 | 313 | 7.50 | 191 |
| FA2.5AMR-MMK1G | 13.5 | 343 | 47.69 | 1211 | 18.81 | 478 | 10.81 | 274 |
| FA2.5AMR-LMK1G | 20.0 | 508 | 54.19 | 1376 | 25.31 | 643 | 14.00 | 356 |
| FA2.5AMR-RMK1G | 24.0 | 610 | 58.19 | 1478 | 29.31 | 744 | 16.00 | 406 |
| FA5AMR-SMK1G | 12.0 | 305 | 46.50 | 1181 | 17.89 | 454 | 10.50 | 266 |
| FA5AMR-LMK1G | 24.0 | 610 | 58.13 | 1486 | 29.89 | 759 | 16.50 | 419 |

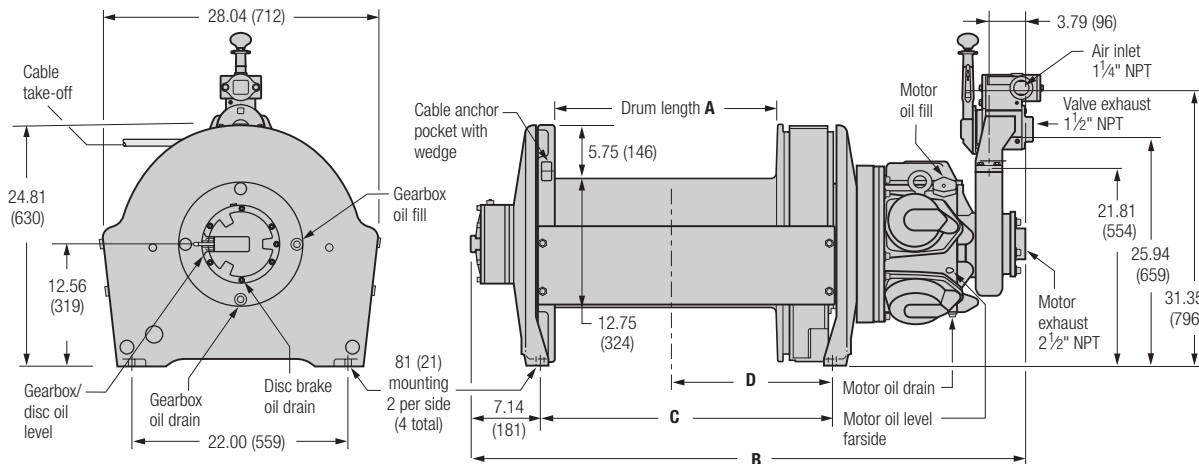
FA2BMR in inches (mm)



FA2.5AMR in inches (mm)



FA5AMR in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Force 5™ “Offshore” Man Rider™ Series

330 to 6870 lb (150 to 3117 kg) capacity



How To Order:

Specify complete model code as shown. To order options, use the option code in the option table and add as a suffix to the model code. To order a Force Five air winch with a non-standard drum length, refer to the available drum lengths provided in the drum length table below. Enter the desired drum length for each winch in the drum length section of the model code. To order accessories such as filters and lubricators, enter these as separate accessory items by the part number in the air winch accessories table. **Example: FA2.5MR24MK1GP**

| Series | Personnel cap. | Man Rider cap. | Drum length | Drum brake | Disc brake | Control brake | Options (see notes below) |
|---|---------------------------|------------------------|---|--|----------------------------|---|--|
| FA | 2.5 | MR | 24 | M | K | 1 | GP |
| 150KG = 330 lbs (150 kg) (Contact technical sales for special model driver) | | MR = Man Rider | 24 = 24" (610 mm) between flanges. See drum length charts below. | M = Auto drum brake M = Manual drum brake (std) | K = Auto disc (std) | 1 = Standard winch mounted throttle | 7 = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") ⁽²⁾ C = Low temperature; please specify in text: -10° C or -20° C D = Drum divider flange and additional cable anchor ⁽³⁾ G = Drum guard L = Drum locking pin ⁽⁵⁾ M1 = Per DIN 50049/En10204 Para 2.2 "Typicals" ⁽⁴⁾ M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased ⁽⁴⁾ M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition ⁽⁴⁾ N = Type approval; please specify in text: DNV, ABS or Lloyds P = Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish Q = Special paint; please specify S = Limit switch (upper and lower) ⁽⁵⁾ U = Underwound (available only with autodisc brake XX) V = Press roller W = Witness; please specify X = Special testing; please specify Z = Sandblast and carbozinc primer only -E = Compliance with European Machinery Directive (insert at end of model code) ⁽⁵⁾ |
| 2B = 2500 lbs (1136 kg) | 2.5A = 3125 lbs (1420 kg) | 2 = 3180 lbs (1445 kg) | 2XX = Remote full flow lever throttle (max 20 ft/6 m) | A = Auto drum brake | | 3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) ⁽¹⁾ | |
| 2.5 = 3180 lbs (1445 kg) | 5A = 6250 lbs (2841 kg) | 5 = 6870 lbs (3111 kg) | 4XX = Remote pilot lever throttle (std = 6 ft/1.8 m; max 66 ft/20 m) ⁽¹⁾ | | | 5XX = Remote electric over air throttle | |
| Force Five | | | XX = Specify hose length or pendent cord in feet | | | | |
| FA = Air powered | | | | | | | |
| FH = Hydraulic powered | | | | | | | |
| Notes: | | | | | | | |
| All Force 5 units come with standard six (6) strand wire rope anchor and winding directions for right hand overwind. | | | | | | | |
| Option Notes: | | | | | | | |
| (1) With remote pilot control option, line speeds will decrease. | | | | | | | |
| (2) Number designates drum grooving. Number equals wire rope size in sixteenths. The standard will be based on a right hand overwind rotation and spiral grooving for the recommended size of wire rope for the standard length of drum only. Grooving involving longer or shorter drums, or drums equipped with a divider flange will be an engineered item with longer lead time. | | | | | | | |
| (3) D = drum divider flange. The standard will be based on right hand over wind rotation. Two steel flanges are welded to the center of the drum. This provides the motor side of the drum (half) with a rope anchor. Anchor locations must be specified by the customer. | | | | | | | |
| (4) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest IR distributor for information. | | | | | | | |
| M1 Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.) | | | | | | | |
| M2 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.) | | | | | | | |
| M3 Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.) | | | | | | | |
| (5) Not available on Third Generation Series | | | | | | | |

| Drum lengths | | |
|---------------|--------|-----|
| FA2B & FA2.5A | in. | mm |
| S | 7 | 178 |
| M | 13 1/2 | 343 |
| L | 20 | 508 |
| R | 24 | 610 |
| FA5A | | |
| S | 12 | 305 |
| L | 24 | 610 |

| Drum lengths available in. (mm) | | | | | | |
|---------------------------------|-------|------------|-------|------------|-------|-------|
| Model | 8 | 12 | 16 | 24 | 30 | 36 |
| | (203) | (305) | (406) | (610) | (762) | (914) |
| FA150KG | yes* | Std | yes* | yes | yes* | yes* |
| FA2 | yes | yes | yes | Std | yes* | yes* |
| FA2.5 | yes | yes | yes | Std | yes | yes |
| FA5 | no | yes | yes | Std | yes | yes |

Contact factory for lengths other than shown.
* Special order

Special optional requirements for offshore compliance are available (see codes above where applicable):

- Material traceability
- Charpy testing
- Certificate of compliance
- Third party witness
- Customer witness
- Special documentation
- Regulatory agency certification
- Low temperature materials

Man Rider winches have been designed and built to meet the requirements of the Offshore Oil Industry, particularly those specifications of the Norwegian Maritime Directorate, the Norwegian Petroleum Directorate and the UK HSE. They are Type Approved by Lloyds Register of Shipping, Det Norske Veritas (DNV) and the American Bureau of Shipping (ABS). There is no standard covering the use of these Man Riders in other than the offshore environment. It is, therefore, the user's responsibility to determine the suitability of this product for any particular use and to check for compliance with applicable regulations.

Third Generation "Offshore" Gulf Man Rider™ 2500 lb (1136 kg) capacity



Based on the design of our Force 5 Man Riders and the popular FA2B modular winch, IR is pleased to introduce the FA2B-GMR, the Gulf Man Rider™

When operating in the Gulf of Mexico, the guidelines of certifying bodies may not apply, but common sense and safe operating practices do. The **Gulf Man Rider™** is IR's solution. It meets all the offshore and rating criteria we apply to all Man Riders. We also provide a third party (DNV) witness certificate with performance specifications; this is your assurance of quality and reliability.

Standard features:

- Dual brakes: auto disc and manual band type. Both are capable of holding 200% of the rated load.
- 8:1 design factor: The recommended wire rope size to maintain this factor is ½ in. (13 mm) extra improved plow steel (EIPS) with independent wire rope core (IWRC).
- Stainless steel and corrosion resistant fasteners
- Standard design temperature of 0° C
- Self closing, dual action throttle handle is offshore tough
- Wedge type rope anchor for easy, "tool-less" installation holds up to 80% of rope breaking strength



FA2B-GMR-LMK1G

- Available in short **S**, medium **M**, long **L** and extra long **R** drum lengths
 - Dual rated 8:1 design factor for manrider rating; 5:1 design factor for utility rating
- **Options:**
- Unlike our other Man Riders, drum guards are optional on Gulf Man Riders. Add suffix **G** for this highly recommended option.
 - There is no **-E** European version

Specifications and performance at 90 psi

| Model no. | Ratings at mid layer | | Optional design temp | Maximum stall pull | | Average air consumption | | Pipe inlet in. mm | Hose size in. mm | Shipping weight | |
|-----------|----------------------|--------------|----------------------|--------------------|-----------|-------------------------|--------|-------------------|------------------|-----------------|----|
| | Utility lbs | Personnel kg | | lbs | kg | scfm | m³/min | | | lbs | kg |
| FA2B-GMR | 4000 | 1818 | 2500 1136 | -10° or -20°c | 6800 3084 | 380 10.8 | 1 ¼ 32 | 1 ½ 38 | 786 357 | | |

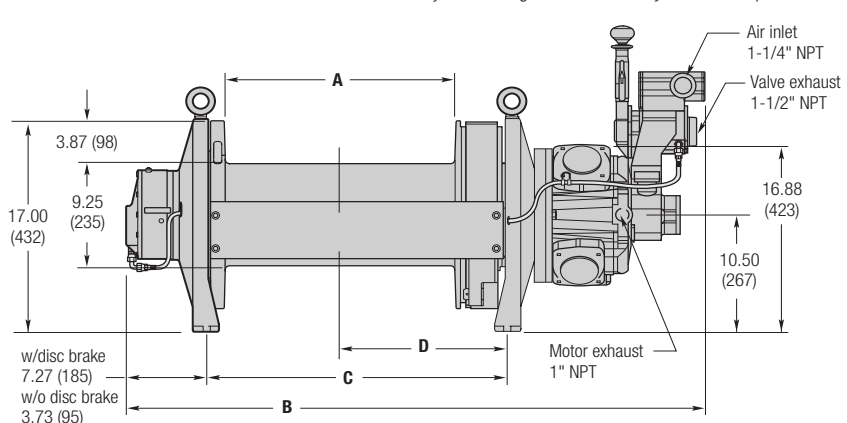
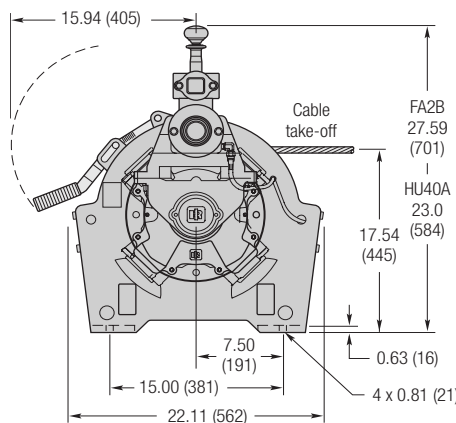
Rope speed at mid drum at 90 psi

| Winch series | at 330 lbs (150 kg) | | | | at personnel rating | | | | at utility rating | | | |
|--------------|---------------------|-------|------|-------|---------------------|-------|------|-------|-------------------|-------|------|-------|
| | Up | | Down | | Up | | Down | | Up | | Down | |
| | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min |
| FA2B-GMR | 274 | 90 | 150 | 46 | 164 | 54 | 141 | 43 | 96 | 31 | 260 | 79 |

Dimensions: FA2B-GMR

| Model no. | A | | B | | C | | D | |
|---------------|------|-----|------|------|------|-----|------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm |
| FA2B-GMR-SMK1 | 7.0 | 178 | 34.3 | 871 | 12.3 | 312 | 4.8 | 121 |
| FA2B-GMR-MMK1 | 13.5 | 343 | 40.8 | 1036 | 18.8 | 478 | 8.0 | 204 |
| FA2B-GMR-LMK1 | 20.0 | 508 | 47.3 | 1201 | 25.3 | 643 | 11.3 | 286 |
| FA2B-GMR-RMK1 | 24.0 | 610 | 51.3 | 1303 | 29.3 | 744 | 13.3 | 337 |

FA2B-GMR in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Drum storage⁽¹⁾

| Model no. | Drum code | Drum length | | Rope dia. ½ (13) | |
|-----------|-----------|-------------|-----|------------------|-----|
| | | in. | mm | ft | m |
| FA2B | S | 7 | 178 | 300 | 91 |
| | M | 13.5 | 343 | 600 | 183 |
| | L | 20 | 508 | 900 | 274 |
| | R | 24 | 610 | 1085 | 331 |

(1) Leaving ½ inch (13 mm) flange clearance

How to Order:

Specify FA2B-GMR-"X"MK1 and substitute S, M, L or R for the "X" for drum length. Add suffix G for drum guard option. See Third Generation section for additional information and options.

Example: FA2B-GMR-LMK1G

Liftstar "Offshore" Man Rider™ Series 330 to 2200 lb (150 to 1000 kg) capacity

Designed to the toughest Type Approval standards issued by the classification societies and meets NPD, NMD and UK HSE regulations for personnel lifting operations on offshore installations. The "Liftstar Man Rider" is a dedicated personnel lifting winch offered with Det Norske Veritas (DNV) Type Approval and full traceability.

■ Liftstar 150 kg / Pneumatic:

The LS150RLP...-E models have been specifically designed for personnel lifting applications in which a safety harness or a boatswain's chair is used on fixed installations. They have passed the DNV (Det Norske Veritas) EC testing for these applications, i.e., both the winches and their technical files are in compliance with the requirements of the EC Machinery Directives.

The LS150RLP-DP5M-F model is in compliance with section 28 of the NPD (Norwegian Petroleum Directorate) regulation for manriding applications using a safety harness in petroleum drilling and well activities on mobile/floating installations.

■ Pneumatic and hydraulic models— 500 and 1000 kg capacity:

For use with assemblies using a platform, basket, carrier, etc... These models should be considered "part machines," as they are intended for incorporation into an assembly consisting of a platform, a suspension system, etc... Therefore, they are delivered without the CE mark, but with a Declaration of Incorporation. However, since they are equipped with selected safety options, when the user applies for EC compliance of the entire personnel lifting system, the winch "part" will meet the EC requirements.

■ Standard features:

All models:

- Two independent automatic brakes: an internal oil bath multidisc brake and an external drum band brake. Each can hold 180% of SWL.
- Flange mounted overload protection device
- Direct lever control with fine inching characteristics and automatic return to neutral when brakes are applied
- Main air emergency stop (for air models only)
- High efficiency planetary gearing is inside drum for better protection and minimum overall dimensions
- Hot dip, galvanized drum guard
- Sandblasting, carbozinc primer and offshore paint 290µ
- 3.1b material traceability certificates according to DIN 50049 (EN 10204) for load bearing parts available upon request at time of order
- Stainless steel external brake cylinder and control rods
- All external fasteners larger than 10 mm are stainless steel or electro-zinc plated
- Delivered with skid frame for easy installation



LS1000RLP Man Rider

The LS150RLP...-E and the LS150RLP-DP5M-F models:

- Upper and lower limit switches
- Slack wire detector
- Assisting spooling device—for better rope winding at no load
- Pre-equipped emergency lowering device (pressurized nitrogen bottle not supplied)

Additional standard features:

- The LS150RLP...-E includes a CE manual for installation and operation
- The LS150RLP-DP5M-F includes a rope payout system and filter-regulator-lubricator assembly

■ Options

All models:

- Witness test(s) by a third party (DNV, Lloyd's, ABS, etc)

500 and 1000 kg capacity models

- Upper and lower limit switches
- Assisting spooling device
- Pre-equipped emergency lowering device for air model only (pressurized nitrogen bottle not supplied)
- Slack wire detector (electric on hydraulic models)

All models except LS150RLP-DP5M-F:

- PHS remote control piloted pendant allows infinitely variable up and down speeds with complete operator control. Fitted with an emergency stop device which acts directly on the main air flow

Liftstar "Offshore" Man Rider™ Series

330 to 2200 lb (150 to 1000 kg) capacity



Specifications – pneumatic models at 90 psi (6.3 bar)

| Model no. | Rated working load | | Hoisting speed ⁽¹⁾ | | Rec'd rope dia | | Free air consumption | | Motor power | | Weight w/o rope | |
|------------|--------------------|------|-------------------------------|---------|----------------|----|----------------------|---------------------|-------------|-----|-----------------|-----|
| | lbs | kg | fpm | m/min | in. | mm | scfm | m ³ /min | hp | kw | lbs | kg |
| LS150RLP-E | 330 | 150 | 0 to 115 | 0 to 35 | 3/8 | 10 | 0 to 78 | 0 to 2.2 | 2 | 1.5 | 250 | 114 |
| LS500RLP | 1100 | 500 | 0 to 79 | 0 to 24 | 1/2 | 13 | 0 to 123 | 0 to 3.5 | 3 | 2.2 | 300 | 136 |
| LS1000RLP | 2200 | 1000 | 0 to 79 | 0 to 24 | 1/2 | 13 | 0 to 123 | 0 to 3.5 | 6 | 4.5 | 300 | 136 |

Specifications – hydraulic models

| Model no. | Rated working load ⁽²⁾ | | Maximum speed ⁽³⁾ | | Rec'd rope dia | | Maximum working flow | | Working pressure | | Weight w/rope | |
|-----------|-----------------------------------|------|------------------------------|-------|----------------|----|----------------------|-------|------------------|-----|---------------|-----|
| | lbs | kg | fpm | m/min | in. | mm | gpm | l/min | psi | bar | lbs | kg |
| LS500HLP | 1100 | 500 | 98 | 30 | 1/2 | 13 | 6.3 | 24 | 1499 | 105 | 638 | 290 |
| LS1000HLP | 2200 | 1000 | 98 | 30 | 1/2 | 13 | 9.8 | 37 | 1785 | 125 | 638 | 290 |

- (1) For hydraulic models: at last (4th) rated layer
- (2) For pneumatic models: at rated load
- (3) For pneumatic models: at mid-drum with rated load

Performance

13 mm rope at 1499 psi (105 bar) 6.3 gpm (24 l/min)

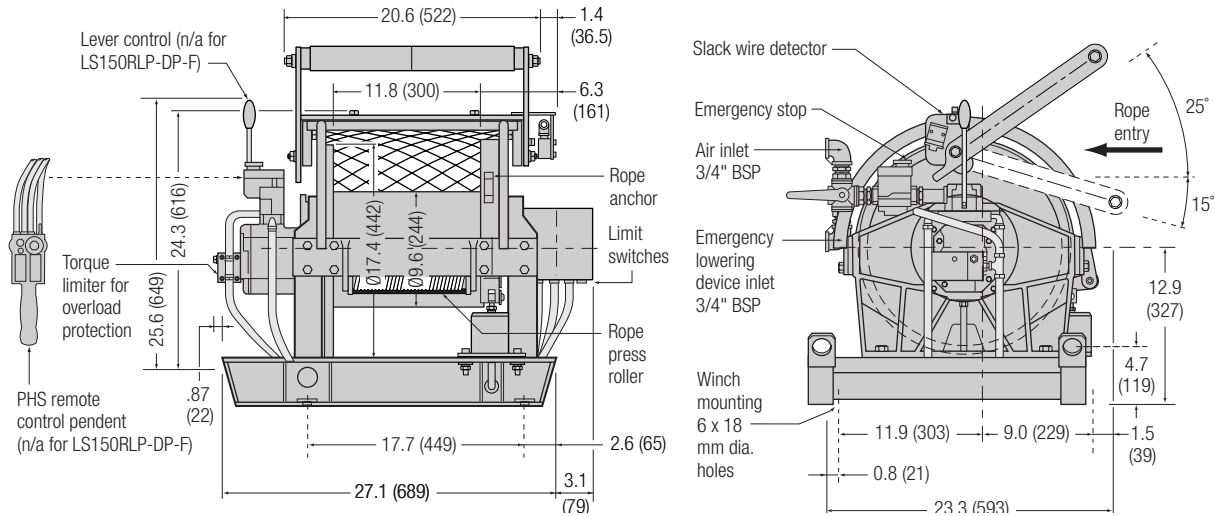
| Model no. | Rated layers | Line pull | | Line speed | |
|-----------|--------------|-----------|-----|------------|-------|
| | | lbs | kg | fpm | m/min |
| LS500HLP | 1 | 1397 | 635 | 77.1 | 23.5 |
| | 2 | 1283 | 583 | 84.3 | 25.7 |
| | 3 | 1184 | 538 | 91.2 | 27.8 |
| | 4 | 1100 | 500 | 98.4 | 30.0 |

13 mm rope at 1785 psi (125 bar) 9.8 gpm (37 l/min)

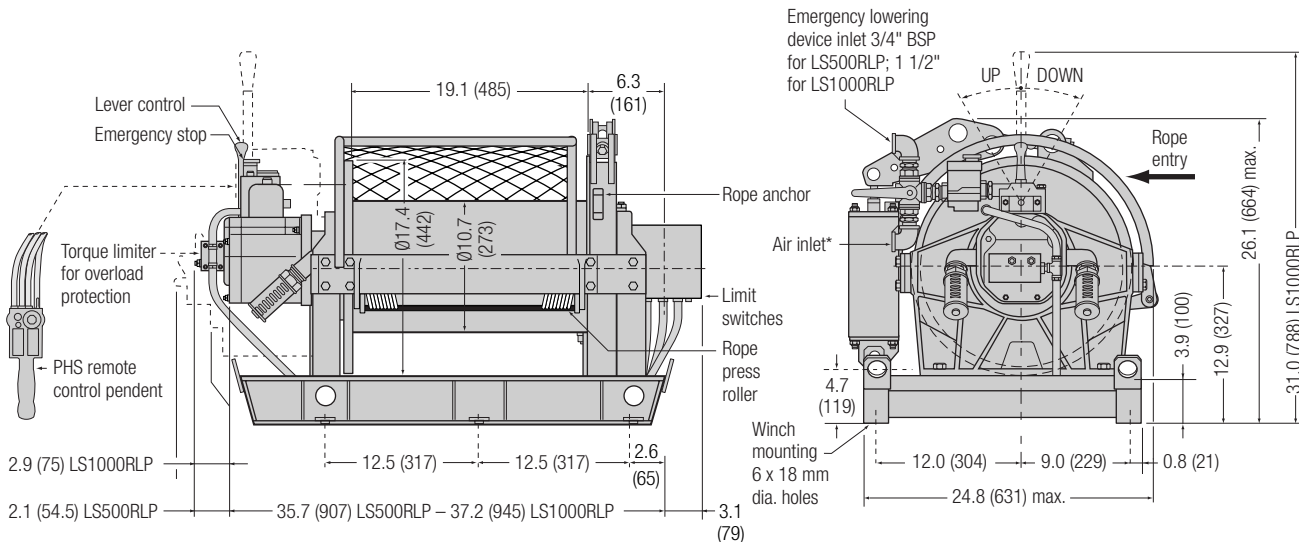
| Model no. | Rated layers | Line pull | | Line speed | |
|-----------|--------------|-----------|------|------------|-------|
| | | lbs | kg | fpm | m/min |
| LS500HLP | 1 | 2794 | 1270 | 77.1 | 23.5 |
| | 2 | 2565 | 1166 | 84.3 | 25.7 |
| | 3 | 2369 | 1077 | 91.2 | 27.8 |
| | 4 | 2200 | 1000 | 98.4 | 30.0 |

Dimensions

LS150RLP pneumatic winch in inches (mm)



LS500RLP and LS1000RLP pneumatic winches in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Liftstar "Offshore" Man Rider™ Series

330 to 2200 lb (150 to 1000 kg) capacity



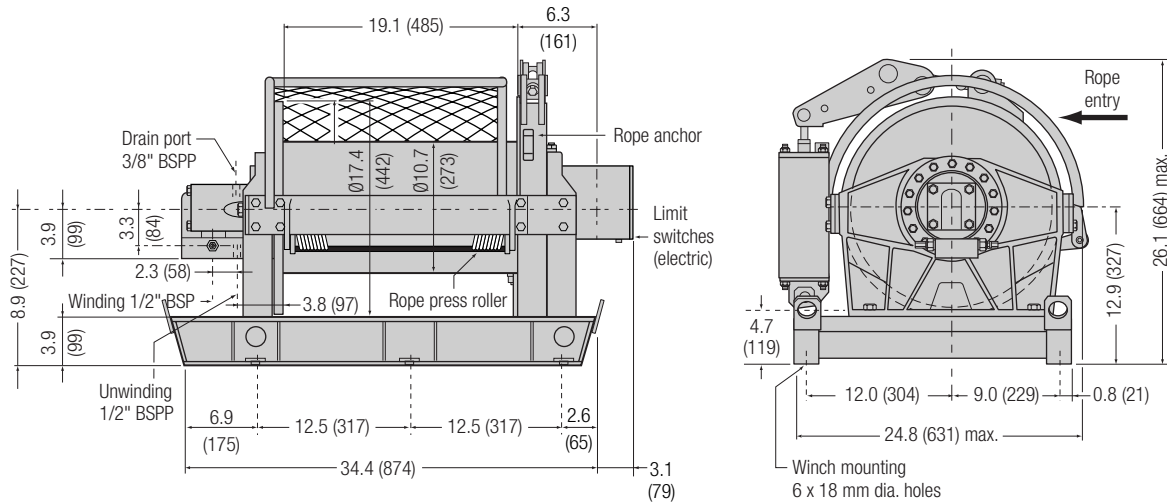
Cumulative rope capacity

| Model no. | Rec'd rope dia. | | Rope capacity according to number of layers ⁽¹⁾ | | | | | | | | | | | | | | | |
|-------------------------|-----------------|-----------|--|-----------|------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | in. | mm | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| | | | ft | m | ft | m | ft | m | ft | m | ft | m | ft | m | ft | m | ft | m |
| Pneumatic models | | | | | | | | | | | | | | | | | | |
| LS150RLP-E | 3/8 | 10 | 72 | 22 | 151 | 46 | 233 | 71 | 325 | 99 | 420 | 128 | 522 | 159 | 630 | 192 | 685 | 741 |
| LS500RLP | 1/2 | 13 | 102 | 31 | 213 | 65 | 335 | 102 | 466 | 142 | 597 | 185 | 754 | 230 | - | - | - | - |
| LS1000RLP | 1/2 | 13 | 102 | 31 | 213 | 65 | 335 | 102 | 466 | 142 | 597 | 185 | 754 | 230 | - | - | - | - |
| Hydraulic models | | | | | | | | | | | | | | | | | | |
| LS500HLP | 1/2 | 13 | 102 | 31 | 213 | 65 | 335 | 102 | 466 | 142 | 597 | 185 | 754 | 230 | - | - | - | - |
| LS1000HLP | 1/2 | 13 | 102 | 31 | 213 | 65 | 335 | 102 | 466 | 142 | 597 | 185 | 754 | 230 | - | - | - | - |

(1) Figures in bold type correspond to layers rated for personnel lifting.

Dimensions

LS500RLP and LS1000RLP hydraulic winches in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

How To Order:

Specify complete model code as shown. Specify options in the model code and accessories as a separate line. **Example: LS500RLP-L-S**

| Series | Capacity | Power source | Personnel lift | - | Control | Rope take-off | Options |
|-----------------------------------|--|---|---|---|--|---|---|
| LS | 500 | R | LP | - | L | L | S |
| LS = Liftstar winch series | 150-E = 150 kg / 330 lbs (Comes standard with European CE package) 500 = 500 kg / 1100 lbs 1000 = 1000 kg / 2200 lbs | R = Air H = Hydraulic (w/o control; brake valve and overload protection flanged as standard) | LP = Includes std features, i.e., second auto brake, skid and drum guard | | L = Lever PH = PHS remote pendent (hose length on request; max. length 66 ft / 20 m) DP = Control console with full flow remote control valve (std length 8 ft / 2.5 m) | - = Horizontal B = Vertical (LS150RLP only) | 10 = Grooved drum for 10 mm rope 13 = Grooved drum for 13 mm rope E = Emergency lowering system (option for 500 and 1000 kg models; std for all LS150RLP models) R = Press roller S = Upper and lower limit switches (option for 500 and 1000 kg models; std for all LS150RLP models) Y = Slack wire protection (option for 500 and 1000 kg models; std for all LS150RLP models) |

The current design of Force 5 Man Rider air winches has been extended to meet the requirements of the American National Standard, ANSI/ASME A10.22-1990 for “Rope-Guided and Nonguided Worker’s Hoists - Safety Requirements.”

Man Rider winches, when incorporated into a lifting system as prescribed in the Standard, or by local regulations, are suitable for lifting and lowering people. They are also rated for lifting material without people.

Since this design is to a recognized ANSI/ASME standard, these Man Rider air winches address OSHA requirements where applicable. IR engineering and manufacturing expertise plus third party Type Approval by the American Bureau of Shipping is your assurance of quality, dependability, and conformity.

■ **Standard features**

- All ANSI/ASME Standard Man Riders carry the designation “MRA - Man Rider, ANSI/ASME” in the model code
- Battery powered line speed monitor and payout meter with 120 volt charger
- Display and battery charger enclosures conform to NEMA 13 and JIC standard EGP-1-1967
- Electrical grounding lug
- Dual drum brakes: one automatic and one manual
- Automatic spring return “lift & shift” double action throttle lever prevents accidental starts
- Dual rated at 8:1 design factor for personnel lifting and 5:1 design factor for utility lifting
- Up and down limit switches are easily adjusted and locked to prevent overtravel



FA2MRA24MA1

- Exhaust manifold, ten feet of exhaust hose and muffler are included to keep sound levels below 90 dBA
- Owner’s manual and ANSI/ASME Standard included in weatherproof box attached to winch
- Test certificate verifying performance and required brake holding capacity

■ **Options**

- Different drum lengths
- Remote pilot pendent with overspeed warning light
- Disc brake
- Grooved drum
- Drum guard
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- “Electric-Over-Air” controls for extended remote control operation

Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

| Model no. | Lifting capacity | | | | Stall pull | | Required rope size ⁽¹⁾ | | Drum rope storage capacity | | | | Shipping weight | |
|---------------|------------------|------|---------|------|------------|-------|-----------------------------------|----|----------------------------|-----|---------|-----|-----------------|------|
| | Personnel | | Utility | | lbs | kg | in. | mm | Personnel | | Utility | | lbs | kg |
| | lbs | kg | lbs | kg | | | | | ft | m | ft | m | | |
| FA2MRA24MA1 | 2200 | 1000 | 3520 | 1600 | 9000 | 4090 | 7/16 | 12 | 808 | 246 | 1000 | 305 | 1087 | 493 |
| FA2.5MRA24MA1 | 2200 | 1000 | 3520 | 1600 | 10000 | 4545 | 7/16 | 12 | 808 | 246 | 1000 | 305 | 1275 | 578 |
| FA5MRA24MA1 | 4400 | 2000 | 7040 | 3200 | 24000 | 10909 | 5/8 | 16 | 1024 | 312 | 1456 | 444 | 2260 | 1025 |

(1) Rope construction: Only 6 x 19, 6 x 37 classification, or rotation-resistance ropes, all with IWRC, shall be used.

Drum speed at third layer (half drum)

| Model no. | At 330 lbs / 136 kg | | | | At personnel rating | | | | At utility rating | | | |
|---------------|---------------------|-------|------|-------|---------------------|-------|------|-------|-------------------|-------|------|-------|
| | Up | | Down | | Up | | Down | | Up | | Down | |
| | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min |
| FA2MRA24MA1 | 95 | 29.3 | 52 | 15.8 | 91 | 28 | 71 | 22 | 66 | 20 | 120 | 37 |
| FA2.5MRA24MA1 | 150 | 45.7 | 115 | 35.1 | 195 | 59 | 136 | 41 | 157 | 48 | 148 | 45 |
| FA5MRA24MA1 | 77 | 23.5 | 52 | 15.8 | 87 | 26 | 69 | 21 | 74 | 22 | 78 | 24 |

All performance specifications are based on rope diameter of 7/16" (11 mm) for FA2MRA and FA2.5MRA and 5/8" (16 mm) diameter for FA5MRA as required to meet ANSI/ASME A10.22 - 1990.

Force 5™ “Onshore” Man Rider™ Series
2200 and 4400 lb (1000 and 2000 kg) capacity



Dimensions: ANSI / ASME Man Rider FA2MRA

| Drum length | | A | | B | | C | | D | | E | | F | |
|-------------|-----|-------|------|------|----|------|-----|-------|------|-------|-----|-----|----|
| in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 8.0 | 203 | 21.25 | 540 | 1.63 | 41 | 9.0 | 229 | 48.29 | 1227 | 9.13 | 232 | | |
| 12.0 | 305 | 25.25 | 641 | 1.38 | 35 | 7.5 | 191 | 52.29 | 1328 | 11.38 | 289 | | |
| 16.0 | 406 | 29.25 | 743 | 1.13 | 29 | 9.0 | 229 | 56.29 | 1430 | 13.63 | 346 | | |
| 24.0 | 610 | 37.25 | 945 | 1.38 | 35 | 11.5 | 292 | 64.29 | 1633 | 17.38 | 441 | | |
| 30.0 | 762 | 43.25 | 1099 | 1.38 | 35 | 13.5 | 343 | 70.29 | 1785 | 20.38 | 518 | | |

Dimensions: FA2.5MRA

| Drum length | | A | | B | | C | | D | | E | | F | |
|-------------|-----|-------|------|------|----|------|-----|-------|------|-------|-----|-----|----|
| in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 8.0 | 203 | 22.38 | 568 | 2.19 | 56 | 9.0 | 229 | 54.92 | 1395 | 8.57 | 218 | | |
| 12.0 | 305 | 26.38 | 670 | 1.68 | 43 | 7.5 | 191 | 58.92 | 1497 | 11.08 | 281 | | |
| 16.0 | 406 | 30.38 | 772 | 1.18 | 30 | 9.0 | 229 | 62.92 | 1598 | 13.68 | 347 | | |
| 24.0 | 610 | 38.38 | 975 | 1.68 | 43 | 11.5 | 292 | 70.92 | 1801 | 17.68 | 449 | | |
| 30.0 | 762 | 44.38 | 1127 | 1.68 | 43 | 13.5 | 343 | 76.92 | 1954 | 20.68 | 525 | | |

Wire rope storage capacity ^{(1), (2)}

| Drum length | FA2MRA | FA2.5MRA | 7/16" | | 12mm | |
|-------------|--------|----------|-------|-----|------|---|
| | | | ft | m | ft | m |
| 8 | 269 | 82 | 269 | 82 | | |
| 12 | 404 | 123 | 404 | 123 | | |
| 16 | 539 | 164 | 539 | 164 | | |
| 24 | 808 | 246 | 808 | 246 | | |
| 30 | 1010 | 308 | 1010 | 308 | | |

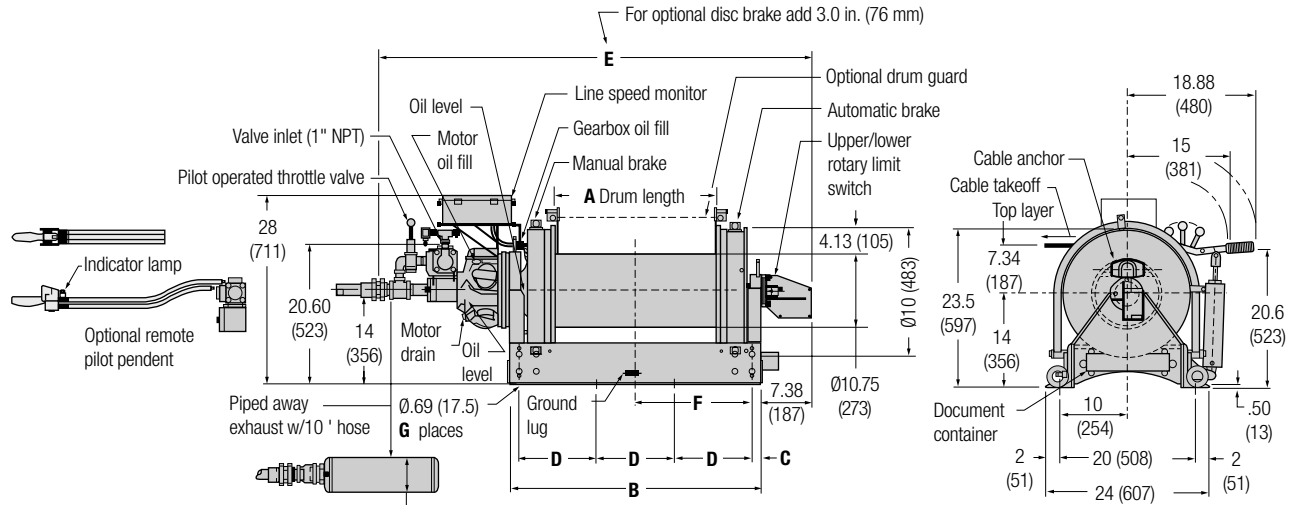
- (1) Recommended working capacity is 80% of values shown.
- (2) ANSI / ASME A10.22-1990 requires top layer be 2 in. (50.8 mm) or more below drum flange

Sound pressure ⁽¹⁾ Avg. air consump.

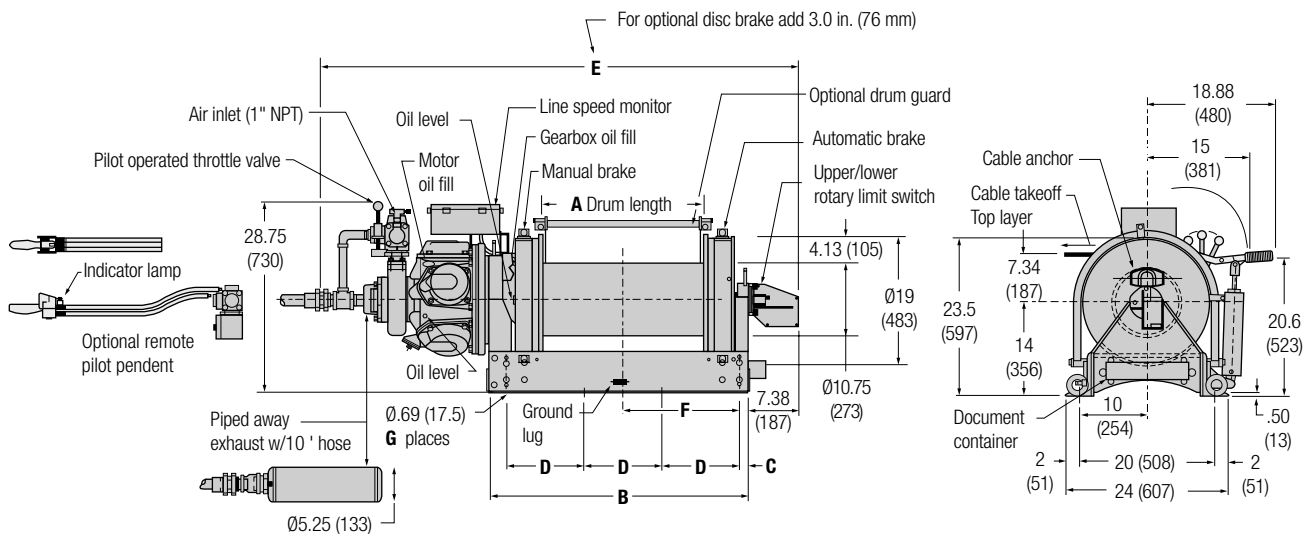
| Model no. | dBa level | scfm | m ³ /min |
|-----------|-----------|------|---------------------|
| FA2MRA | 85 | 335 | 9.5 |
| FA2.5MRA | 89 | 700 | 19.8 |
| FA5MRA | 89 | 700 | 19.8 |

- (1) Outdoors, at operator, w/exhaust manifold, hose and muffler. Levels can and will vary based on background noise and surroundings.

FA2MRA in inches (mm)



FA2.5MRA in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Force 5™ “Onshore” Man Rider™ Series 2200 and 4400 lb (1000 and 2000 kg) capacity



Dimensions: ANSI / ASME Man Rider FA5MRA

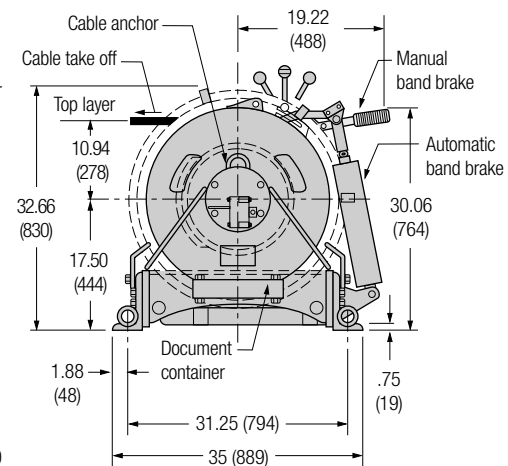
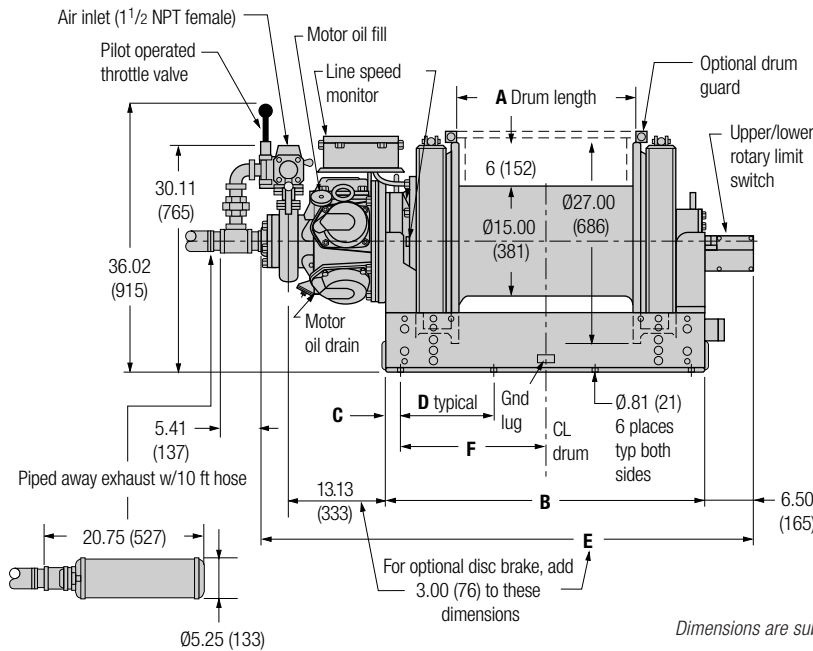
| Drum length | | A | | B | | C | | D | | E | | F | |
|-------------|-----|-------|------|------|----|-------|-----|-------|------|-------|-----|-----|----|
| in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 8.0 | 203 | 26.63 | 676 | 1.31 | 33 | 8.00 | 203 | 50.00 | 1270 | 12.00 | 305 | | |
| 12.0 | 305 | 30.63 | 778 | 1.44 | 37 | 9.25 | 235 | 54.00 | 1372 | 13.88 | 353 | | |
| 16.0 | 406 | 34.63 | 880 | 1.56 | 40 | 10.50 | 267 | 58.00 | 1473 | 15.75 | 400 | | |
| 24.0 | 610 | 42.63 | 1083 | 1.81 | 46 | 13.50 | 330 | 66.00 | 1676 | 19.50 | 495 | | |
| 30.0 | 762 | 48.63 | 1235 | 1.31 | 33 | 11.50 | 292 | 72.00 | 1829 | 23.00 | 584 | | |
| 36.0 | 914 | 54.63 | 1388 | 2.31 | 59 | 12.50 | 318 | 78.00 | 1981 | 25.00 | 635 | | |

Wire rope storage capacity^{(1), (2)}

| Series | Drum length | | 5/8" 16mm | |
|--------|-------------|-----|-----------|-----|
| | in. | mm | ft | m |
| FA5MRA | 8 | 203 | 341 | 104 |
| | 12 | 305 | 512 | 156 |
| | 16 | 406 | 683 | 208 |
| | 24 | 610 | 1024 | 312 |
| | 30 | 762 | 1280 | 390 |
| | 36 | 914 | 1536 | 468 |

- (1) Recommended working capacity is 80% of values shown.
- (2) ANSI / ASME A10.22-1990 requires top layer be 2 in. (50.8 mm) or more below drum flange

FA5MRA in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

How to Order:

Specify winch by complete model number. Man Rider winches will not be sold without standard features. Add options as required. **Example: FA2MRA24MA1G**

| Series | Man Rider Capacity | Designation | Drum length | Brakes | Controls | Options |
|--------|--|--|--|--|---|---|
| FA | 2 | MRA | 24 | MA | 1 | G |
| FA | 2 = 2200 lbs / 1000 kg 2.5 = 2200 lbs / 1000 kg 5 = 4400 lbs / 2000 kg | MRA = Meets ANSI / ASME A10.22-1990 standard | 8 = 8 in. (203mm) 12 = 12 in. (305 mm) 16 = 16 in. (406 mm) 24 = 24 in. (610 mm) (standard) 30 = 30 in. (762 mm) 36 = 36 in. (914 mm) | M = Manual drum (standard) A = Auto drum (optional) K = Auto disc (standard) | 1 = Standard winch mounted lever throttle 3XX = Remote pilot pendent throttle w/warning light; 6 ft/2m std. Max 50 ft (15 m). 5XX = Remote electric-over air throttle control XX = Specify hose length in feet | 7 = Drum grooving (no. = wire rope size in sixteenths, e.g. 7/16 in.; 7 for FA2 and FA2.5 only; 10 for FA5 only) G = Drum guard P = Marine 812 finish V = Press roller Z = Sandblast and carbozinc primer |

Natural Gas Powered Winches
1000 to 10000 lb (455 to 4545kg) capacity

The first natural gas powered winches in the world!

Models

| | |
|-------------------------|------------------|
| BU7A-PR | 1000 lbs |
| EU-PR | 2000 lbs |
| FA2B-LMX1R | 4000 lbs |
| FA5A-LMX1R | 10000 lbs |

■ **Standard features**

- Radial piston motor
- Local throttle
- Manual band brake
- Marine grade, corrosion resistant finish
- Free spool clutches on BU7A-PR and EU-PR
- Rated at 90 psig inlet pressure on gas with less than 4% sulfur content. Gas line filtration is recommended.

■ **Piped away exhaust**

The natural gas exhausting from the winch should be routed away from the operator’s work area. To accommodate this, all control valve and motor vents are plumbed together to provide a single port for easy attachment to an exhaust line.

■ **Gas Smart Redesign provides a “gas tight” winch**

Modifications to various components such as the crankshaft and motor case allow the addition of **Viton** lip seals. These seals encapsulate the natural gas within a closed loop system consisting of the control valve, motor and exhaust assembly. This prevents the natural gas from contaminating the local environment.

■ **Natural gas-resistant Viton seals and gaskets used on:**

- | | |
|------------------------------------|---------------------------|
| • Piston cover gaskets | • Exhaust cover gasket |
| • Rotary valve gasket | • Motor case gasket |
| • Reverse valve poppet | • Reverse valve seal |
| • Auto disc brake on FA2B and FA5A | • Motor output shaft seal |

Specifications

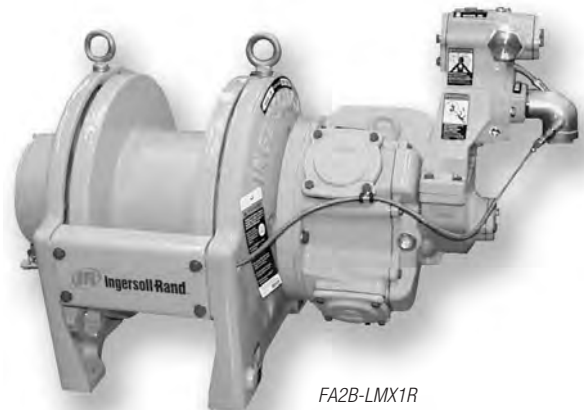
| Series | Capacity | | Line speed | |
|-------------------|----------|------|------------|-------|
| | lbs | kg | fpm | m/min |
| BU7A-PR | 1000 | 455 | 45 | 14 |
| EU-PR | 2000 | 909 | 68 | 21 |
| FA2B-LMX1R | 4000 | 1818 | 96 | 29 |
| FA5A-LMX1R | 10000 | 4545 | 32 | 10 |



BU7A-PR



EU-PR



FA2B-LMX1R

BU7A-PR-E, FA2B-LMX1R-E and FA5A-LMX1R-E are fitted as standard with the following CE package:

- 1 Drum guard
- 2 Emergency stop valve (main air shutoff)
- 3 Exhaust muffler
- 4 CE documentation

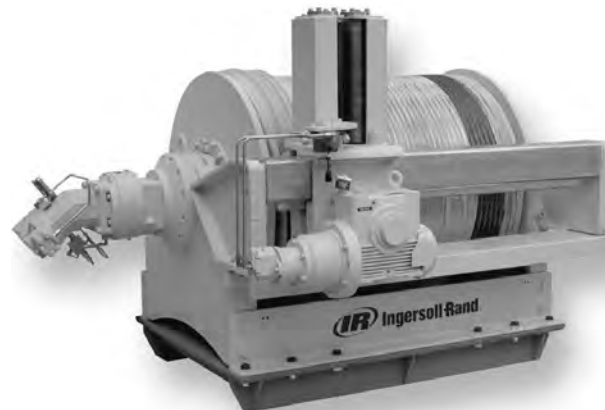
NEW!

Hydraulic Winches

1000 to 100000 lb (455 to 45450 kg) capacity

The IR line of hydraulic winches incorporates over 150 years of the combined engineering and manufacturing experience of Beebe International and the original Ingersoll-Rand line of products.

IR's hydraulic winches utilize both the advanced design of our new Fulcrum winches and the time proven engineering of our Force 5 series. A hydraulic motor and hydraulically released brakes replace the standard air components. These winches can be provided with a compact skid-mounted hydraulic power pack which can include gas, diesel or electric motors, variable displacement pumps, oil reservoir, heat exchanger, filters and controls. These models offer improved load control, quick response and energy efficiency resulting in operating cost savings.



FH10 with hydraulic Accu-Spool



FH10 hydraulic winch used for automated drill pipe handling system



FH1BMR-SMK1G Man Rider winch

■ **Optional configurations include:**

- Fixed and variable displacement motors available in vane, piston and gear configurations
- Brake choices include automatic disc and drum type devices
- A wide variety of gear ratios and motor horsepower coupled with variable displacement pumps and motors provide a broad range of line pull and line speed combinations.
- Extensive array of drum lengths and flange heights
- IR offers the expertise to incorporate complete control packages for each solution, from a simple local throttle valve to a completely integrated control system.
- Hydraulic power units are built to industry standards or customer supplied specifications.



FH5, 5000 lb decoking winch

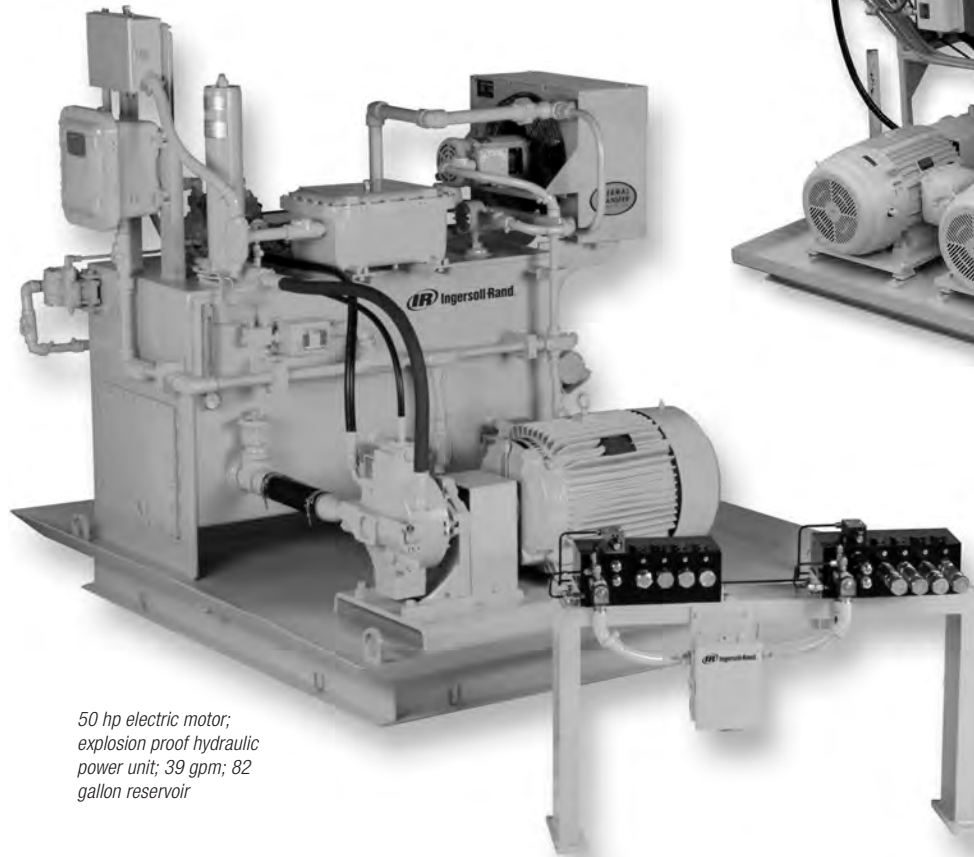
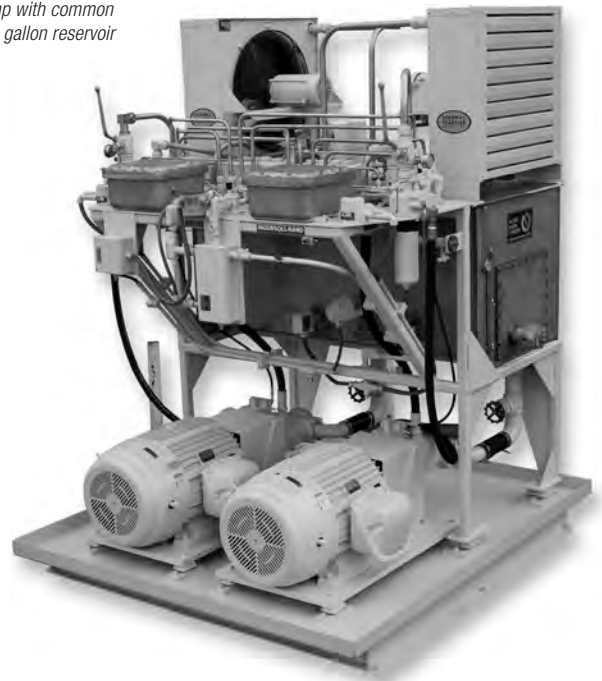
NEW!

Hydraulic Winches **1000 to 100000 lb (455 to 45450 kg) capacity**

■ **Power unit:**

- Each IR hydraulic power unit is skid mounted incorporating an electric motor, with a fixed or variable displacement pump, an oil reservoir, a heat exchanger, filters and controls.
- IR's hydraulic power units can be built to industry standard specifications or custom built to your specifications.

Hydraulic power unit incorporating twin 75 hp explosion proof electric motors, each powering its own 68 gpm variable displacement pump with common 210 gallon reservoir



*50 hp electric motor;
explosion proof hydraulic
power unit; 39 gpm; 82
gallon reservoir*

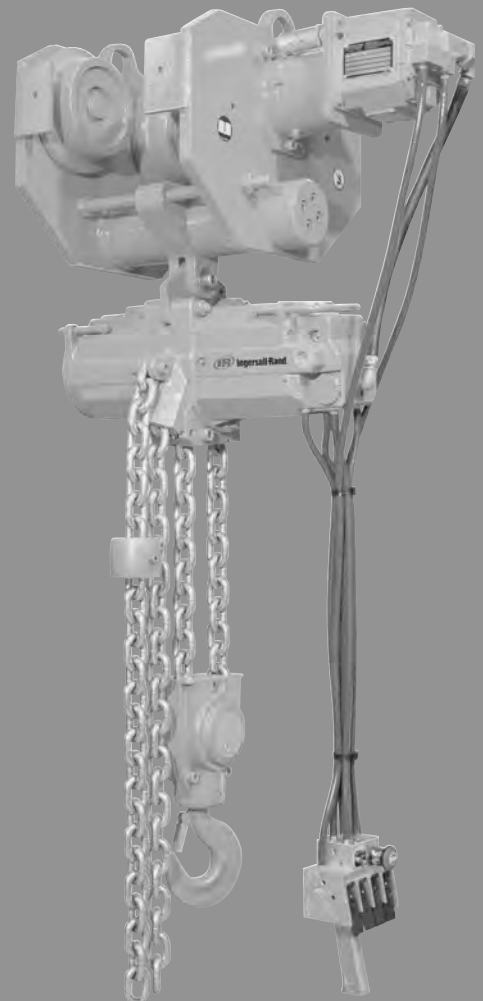
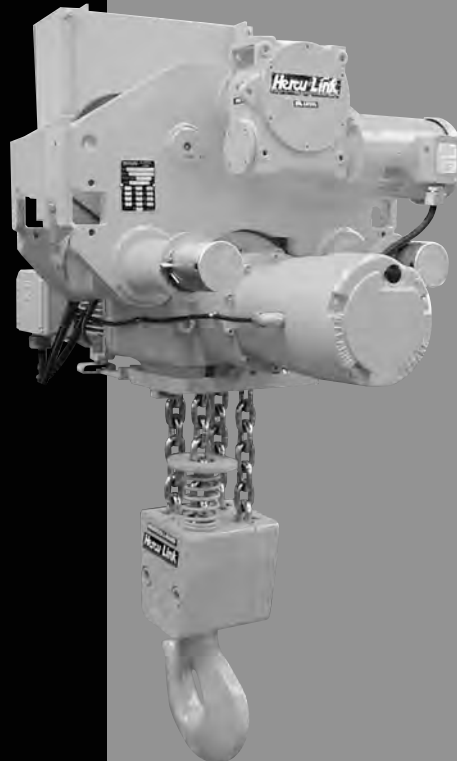
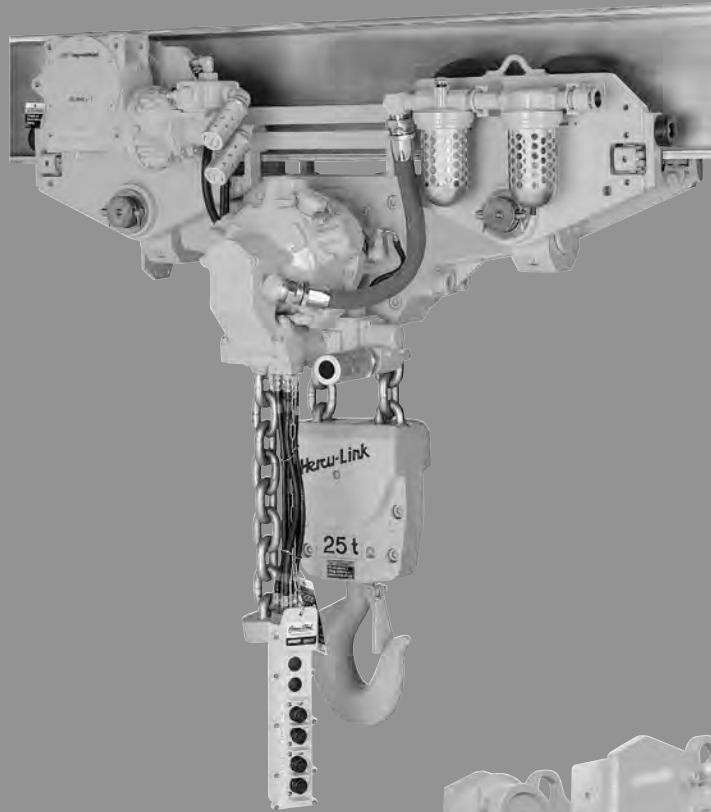
IR excels in providing complete system solutions, from upfront engineering through system installation and testing. IR provides the appropriate technological experience to bring together your lifting, pulling, tensioning, and material handling solutions.

High Capacity Chain Hoists

The IR line of high capacity chain hoists incorporates over 75 years of experience in solving the most challenging lifting applications in the world's toughest industries.

Why choose a high capacity chain hoist?

- Space-saving, compact designs can replace manual chain hoists in industrial applications
- Time proven, rugged and reliable construction provides dependable, long-lasting use
- Flexible designs allow these hoists to be modified to meet your most challenging custom applications
- Variable power sources to meet the most demanding industrial applications
- True vertical lifts
- Excellent spotting characteristics for the most critical applications
- Fail-safe disc brakes
- Zinc plated load chain for corrosion resistance



Hercu-Link™ Air Chain Hoist **5 to 100 metric ton lifting capacity**

IR's uniquely modular, compact design Hercu-Link™ air chain hoist brings strength and durability to maintenance and operations, rigging, construction and shipyard applications with enhanced safety, space, and time savings in mind.

■ **Standard features and equipment**

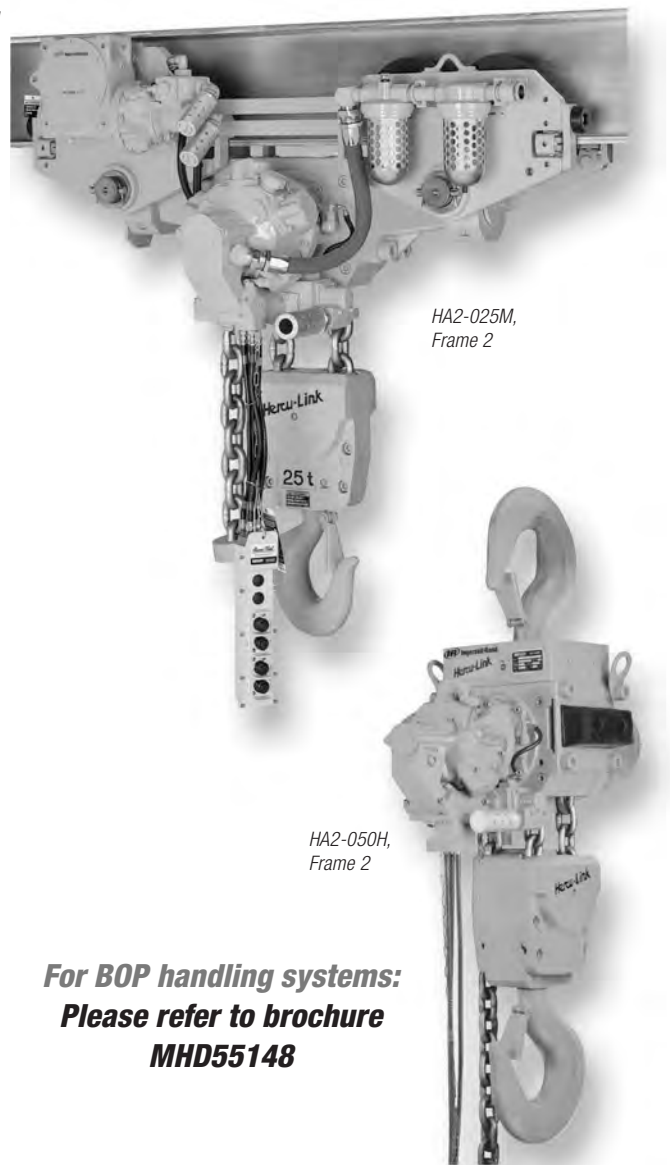
- Compact design can easily replace older manual chain hoists in many industrial applications
- All steel construction
- True vertical lift in all applications
- Radial piston air motor provides superior spotting control
- Limit switches standard on all Frame 2 models
- Automatic, multi-disc oil bath motor brake
- Compact planetary gearing
- Alloy steel hooks with safety latches and roller thrust bearings
- Alloy steel zinc plated load chain
- Stainless steel pins and fasteners; 3/8" (9.5 mm) and smaller
- Corrosion resistant fasteners; 1/2" (13 mm) and larger
- Water drains provided in enclosed bottom load block
- Lifting lugs for easy installation
- Pendant or pull rope control
- All non-oil bath bearings are regreasable
- Muffler

■ **Additional standard equipment for trolley models:**

- Self locking worm gear drive
- Rail sweeps (safety lugs)
- 4 push button pendant control
- Trolley bumpers and guide rollers for Frame 2 models
- Zinc plated hand chain/geared trolleys
- Zinc plated trolley shafts/spacers

■ **Options:**

- Hook mounted, plain, geared, and motorized trolley suspensions
- Chain containers
- Accu-Trol pendant (see Accu-Trol section for specifications and ordering information)
- Variable lengths of lift
- 60 psi (4 bar) applications packages
- Main air shut-off (emergency stop)
- Pull rope control
- Limit switches, trolley bumpers, and trolley guide rollers for Frame 1 models
- Spark and corrosion resistant packages
- Rubber hull bumpers
- Hydraulic models
- Underwater models
- Trolley drive disc brake – secondary to worm gear braking action



HA2-025M,
Frame 2

HA2-050H,
Frame 2

**For BOP handling systems:
Please refer to brochure
MHD55148**

-E = Compliance with the European Machinery Directive. Hercu-link series hoists will be fitted with the following:

- 1 Overload protection device
- 2 Emergency stop on pendant
- 3 Main air shut-off valve on air inlet
- 4 Exhaust muffler
- 5 Upper and lower limit switches

Hercu-Link™ Air Chain Hoist
5 to 100 metric ton lifting capacity



Specifications: performance is based on 105 psi (7 bar) air inlet pressure with motor running

| Model no. | Capacity tons | Standard lift | | Hoist lift ^{(1) (2)} | | Hoist lower | | Hoist | Avg. air cons. | | Chain | Std headroom ⁽³⁾ | | Unit weight | | Ship weight | |
|--|------------------|---------------|---|-------------------------------|-------|-------------|-------|-------|----------------|---------------------|-------|-----------------------------|------|-------------|------|-------------|------|
| | | ft | m | ft/min | m/min | ft/min | m/min | hp | cfm | m ³ /min | falls | in. | mm | lbs | kg | lbs | kg |
| Frame 1/hook mounted hoist (16 mm chain) | | | | | | | | | | | | | | | | | |
| HA1-005H | 5 | 10 | 3 | 10 | 3 | 15 | 4.6 | 3.8 | 165 | 4.7 | 1 | 27.63 | 702 | 520 | 236 | 670 | 304 |
| HA1-010H | 10 | 10 | 3 | 5 | 1.5 | 7.5 | 2.3 | 3.8 | 165 | 4.7 | 2 | 35.50 | 902 | 610 | 277 | 760 | 345 |
| HA1-015H | 15 | 10 | 3 | 3.25 | 1 | 5 | 1.5 | 3.8 | 165 | 4.7 | 3 | 41.88 | 1064 | 875 | 398 | 1125 | 511 |
| HA1-020H | 20 | 10 | 3 | 2.5 | .76 | 3.75 | 1.1 | 3.8 | 165 | 4.7 | 4 | 42.50 | 1080 | 975 | 443 | 1275 | 580 |
| Frame 2/hook mounted hoist (22 mm chain) | | | | | | | | | | | | | | | | | |
| HA2-012H | 12.5 | 10 | 3 | 8 | 2.4 | 12 | 3.7 | 9.4 | 280 | 8 | 1 | 38.50 | 978 | 965 | 439 | 1215 | 552 |
| HA2-025H | 25 | 10 | 3 | 4 | 1.2 | 6 | 1.8 | 9.4 | 280 | 8 | 2 | 51.13 | 1299 | 1235 | 561 | 1685 | 766 |
| HA2-037H | 37.5 | 10 | 3 | 2.5 | .76 | 3.75 | 1.1 | 9.4 | 280 | 8 | 3 | 66.50 | 1689 | 2230 | 1014 | 2680 | 1218 |
| HA2-050H | 50 | 10 | 3 | 2 | .61 | 3 | 0.9 | 9.4 | 280 | 8 | 4 | 75.06 | 1907 | 2955 | 1343 | 3330 | 1514 |
| Frame 3/hook mounted hoist (32 mm chain) | | | | | | | | | | | | | | | | | |
| HA3-075H | 75 | 10 | 3 | 2.5 | 0.76 | 2.5 | 0.76 | 25 | 500 | 14.3 | 3 | 83 | 2108 | 7600 | 3453 | 8450 | 3839 |
| HA3-100H | 100 | 10 | 3 | 2 | 0.61 | 2 | 0.61 | 25 | 500 | 14.3 | 4 | 96 | 2432 | 8000 | 3635 | 8850 | 4021 |
| Frame 1/trolley mounted hoist (16 mm chain) | | | | | | | | | | | | | | | | | |
| HA1-005M (or V) | 5 | 10 | 3 | 10 | 3 | 15 | 4.6 | 3.8 | 165 | 4.7 | 1 | 23.56 | 598 | 905 | 411 | 1055 | 480 |
| HA1-010M (or V) | 10 | 10 | 3 | 5 | 1.5 | 7.5 | 2.3 | 3.8 | 165 | 4.7 | 2 | 30.50 | 775 | 1105 | 502 | 1305 | 593 |
| HA1-015M (or V) | 15 | 10 | 3 | 3.25 | 1 | 5 | 1.5 | 3.8 | 165 | 4.7 | 3 | 35.25 | 895 | 1315 | 598 | 1565 | 711 |
| HA1-020M (or V) | 20 | 10 | 3 | 2.5 | .76 | 3.75 | 1.1 | 3.8 | 165 | 4.7 | 4 | 34.96 | 878 | 1425 | 648 | 1725 | 784 |
| Frame 2/trolley mounted hoist (22 mm chain) | | | | | | | | | | | | | | | | | |
| HA2-012M (or V) | 12.5 | 10 | 3 | 8 | 2.4 | 12 | 3.7 | 9.4 | 280 | 8 | 1 | 24.69 | 627 | 1415 | 643 | 1665 | 757 |
| HA2-025M (or V) | 25 | 10 | 3 | 4 | 1.2 | 6 | 1.8 | 9.4 | 280 | 8 | 2 | 40.94 | 1040 | 1660 | 755 | 2110 | 959 |
| HA2-037M (or V) | 37.5 | 10 | 3 | 2.5 | .76 | 3.75 | 1.1 | 9.4 | 280 | 8 | 3 | 48.94 | 1243 | 3700 | 1682 | 4150 | 1886 |
| HA2-050M (or V) | 50 | 10 | 3 | 2 | .61 | 3 | 0.9 | 9.4 | 280 | 8 | 4 | 53.00 | 1346 | 4665 | 2120 | 5440 | 2473 |
| Frame 3/trolley mounted hoist (32 mm chain) | | | | | | | | | | | | | | | | | |
| HA3-075M | 75 | 10 | 3 | 2.5 | 0.76 | 2.5 | 0.76 | 25 | 500 | 14.3 | 3 | (4) | (4) | (4) | (4) | (4) | (4) |
| HA3-100M | 100 | 10 | 3 | 2 | 0.61 | 2 | 0.61 | 25 | 500 | 14.3 | 4 | (4) | (4) | (4) | (4) | (4) | (4) |

- (1) Chain bucket dimensions vary per length of lift. Contact technical sales for specific requirements.
- (2) Lifting speed will be reduced when 4-bar gearing (option **Q**) is ordered.
- (3) Headroom for plain and geared trolleys are the same as motorized trolley.
- (4) Contact factory for specific trolley configuration.
- (5) Air Inlet Sizes: Frame 1, 3/4"
Frame 2, 1"
Frame 3, 1-1/2"

Hercu-Link Frame 2 operating data at 105 psi/7 bar (dynamic)

| Series | at rated load | | | | at half load | | | | at no load | | | |
|----------|---------------|-------|------|-------|--------------|-------|------|-------|------------|-------|------|-------|
| | Up | | Down | | Up | | Down | | Up | | Down | |
| | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min | fpm | m/min |
| HA2-012H | 7 | 2.1 | 16 | 4.9 | 13 | 4.0 | 11.5 | 3.5 | 19 | 5.8 | 7 | 2.1 |
| HA2-025H | 3.5 | 1.1 | 8 | 2.4 | 6.5 | 2.0 | 5.7 | 1.7 | 9.5 | 2.9 | 3.5 | 1.1 |
| HA2-037H | 2.3 | .07 | 5.3 | 1.6 | 4.3 | 1.3 | 3.8 | 1.2 | 6.3 | 1.9 | 2.3 | 0.7 |
| HA2-050H | 1.7 | .05 | 4 | 1.2 | 3.2 | 1.0 | 2.9 | 0.9 | 4.75 | 1.4 | 1.75 | 0.5 |

Performance figures are based on 1-1/4 inch (32 mm) I.D. air hose. Air consumption at no load is 280 cfm (7.84 m³/min); at half load is 215 cfm (6.02 m³/min) and at rated load is 150 cfm (4.2 m³/min);

Hercu-Link™ Air Chain Hoist

5 to 100 metric ton lifting capacity

Dimensions: hook mounted hoist

| Frame 1 | A ⁽¹⁾ | | B | | C | | F | | G | | H | | J ⁽¹⁾ | | K | |
|----------|------------------|------|-------|-----|-----|----|------|----|-------|-----|-------|-----|------------------|------|------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA1-005H | 27.63 | 702 | 13.00 | 330 | — | — | 1.81 | 46 | 19.00 | 483 | 14.88 | 378 | 31.25 | 794 | 7.75 | 197 |
| HA1-010H | 35.50 | 902 | 13.00 | 330 | — | — | 2.63 | 67 | 19.00 | 483 | 14.88 | 378 | 40.06 | 1018 | 7.75 | 197 |
| HA1-015H | 41.88 | 1064 | 19.00 | 483 | — | — | 3.00 | 76 | 19.00 | 483 | 14.88 | 378 | 47.88 | 1216 | 7.75 | 197 |
| HA1-020H | 42.50 | 1080 | 13.00 | 330 | — | — | 3.63 | 92 | 21.25 | 540 | 16.75 | 425 | 49.75 | 1264 | 7.75 | 197 |

| | L | | M | | N | | P | | Y | |
|----------|------|-----|------|-----|-------|-----|------|-----|-------|-----|
| HA1-005H | 5.00 | 127 | 3.50 | 89 | 3.50 | 89 | 7.88 | 48 | 6.50 | 165 |
| HA1-010H | 5.00 | 127 | 6.00 | 152 | 8.50 | 216 | 2.50 | 64 | 8.69 | 221 |
| HA1-015H | 5.00 | 127 | 5.25 | 133 | 10.00 | 254 | 3.38 | 86 | 11.00 | 279 |
| HA1-020H | 5.00 | 127 | 9.38 | 238 | 8.50 | 216 | 4.00 | 102 | 13.63 | 346 |

(1) For Frame 1 models w/limit switch option, add approx. 1.5" to dimensions A and J.

| Frame 2 | A | | B | | C | | F | | G | | H | | J | | K | |
|----------|-------|------|-------|-----|-------|-----|------|-----|-------|-----|-------|-----|-------|------|------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA2-012H | 38.50 | 978 | 18.75 | 476 | 24.50 | 622 | 2.63 | 67 | 19.50 | 495 | 14.25 | 362 | 43.75 | 1111 | 9.63 | 244 |
| HA2-025H | 51.13 | 1299 | 18.75 | 476 | 24.50 | 622 | 3.63 | 92 | 19.50 | 495 | 14.25 | 362 | 58.38 | 1482 | 9.63 | 244 |
| HA2-037H | 66.50 | 1689 | 18.75 | 476 | 24.50 | 622 | 5.06 | 129 | 22.50 | 572 | 14.25 | 362 | 76.63 | 1946 | 9.63 | 244 |
| HA2-050H | 75.06 | 1907 | 18.75 | 476 | 24.50 | 622 | 6.69 | 170 | 22.50 | 572 | 14.25 | 362 | 88.44 | 2246 | 9.63 | 244 |

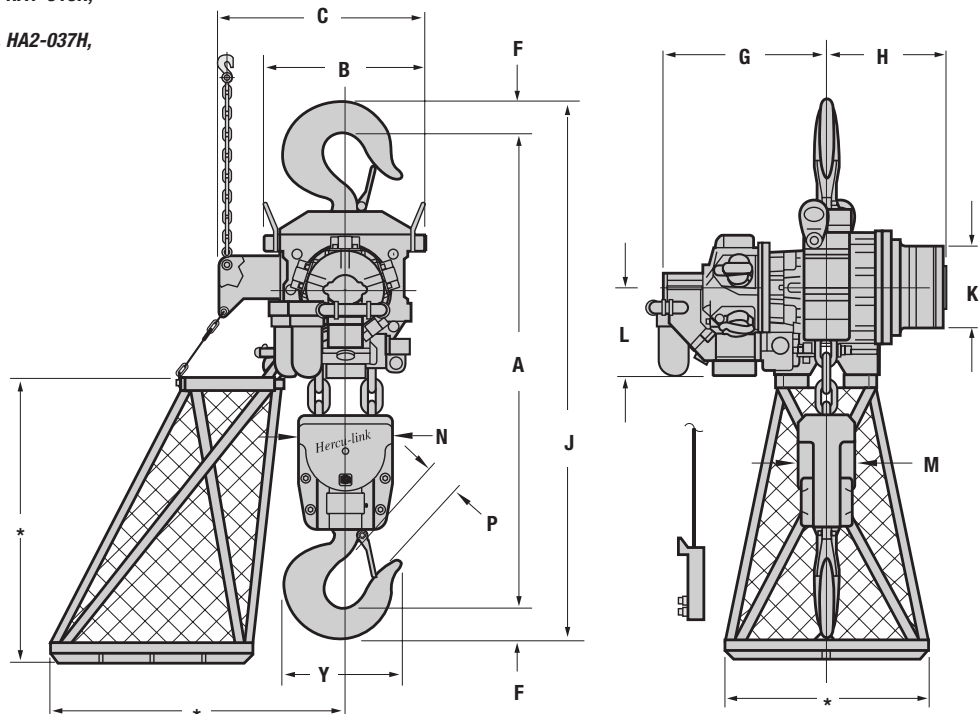
| | L | | M | | N | | P | | Y | |
|----------|------|-----|-------|-----|-------|-----|------|-----|-------|-----|
| HA2-012H | 9.88 | 251 | 4.50 | 114 | 4.50 | 114 | 2.50 | 64 | 8.69 | 221 |
| HA2-025H | 9.88 | 251 | 6.88 | 175 | 11.25 | 286 | 3.25 | 83 | 13.63 | 346 |
| HA2-037H | 9.88 | 251 | 11.13 | 283 | 11.25 | 286 | 4.25 | 108 | 15.06 | 383 |
| HA2-050H | 9.88 | 251 | 12.63 | 321 | 11.25 | 286 | 6.50 | 165 | 20.63 | 524 |

| Frame 3 | A | | B | | C | | F | | G | | H | | J | | K | |
|----------|-------|------|-------|-----|-------|-----|------|-----|-------|-----|-------|-----|--------|------|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA3-075H | 94.43 | 2398 | 26.00 | 660 | 29.75 | 756 | 6.69 | 170 | 36.21 | 920 | 28.69 | 729 | 107.81 | 2738 | 12.68 | 322 |
| HA3-100H | 96.00 | 2438 | 26.00 | 660 | 29.75 | 756 | 6.69 | 190 | 36.21 | 920 | 28.69 | 729 | 110.96 | 2818 | 12.68 | 322 |

Hook mounted hoist with optional filter-lubricator

Frame 1: HA1-005H, HA1-010H, HA1-015H, HA1-020H

Frame 2: HA2-012H, HA2-025H, HA2-037H, HA2-050H



Dimensions are subject to change. Contact factory for certified prints

Trolley specifications

| Model no. | Capacity tons | Speed | | Flange adj | | Wheel tread dia | | Wheel loading/pair | | Min inside curve radius ⁽¹⁾ | | Air cons. ⁽²⁾ | |
|------------------------------|---------------|---------------------------------------|------------|------------|---------|-----------------|-----|--------------------|-------|--|---------------------|--------------------------|---------------------|
| | | fpm | m/min | in | mm | in. | mm | lbs | kg | in. | mm | cfm | m ³ /min |
| Frame 1 (16 mm chain) | | | | | | | | | | | | | |
| HA1-005M (or V) | 5 | 40 ⁽⁴⁾ (20) ⁽⁵⁾ | 12.2 (6.1) | 6-8 | 152-203 | 6.13 | 156 | 5953 | 2706 | 60 ⁽³⁾ | 1524 ⁽³⁾ | See note 2 | |
| HA1-010M (or V) | 10 | 40 (20) | 12.2 (6.1) | 6-8 | 152-203 | 6.13 | 156 | 11553 | 5251 | 60 ⁽³⁾ | 1524 ⁽³⁾ | See note 2 | |
| HA1-015M (or V) | 15 | 40 (20) | 12.2 (6.1) | 6-8 | 152-203 | 6.88 | 175 | 17153 | 7797 | 84 ⁽³⁾ | 2134 ⁽³⁾ | See note 2 | |
| HA1-020M (or V) | 20 | 40 (20) | 12.2 (6.1) | 6-8 | 152-203 | 9.00 | 229 | 22713 | 10324 | 72 ⁽³⁾ | 1829 ⁽³⁾ | See note 2 | |

(1) Minimum curve radius is for frame 1 trolley model without guide rollers. Contact technical sales for trolley with guide rollers.

(2) 180 cfm (5.1 m³/min) for vane motor trolley; 75 cfm (2.1 m³/min) for piston motor trolley

(3) Without trailing trolley or with articulated trailing trolley

(4) Piston motor trolley

(5) Vane motor trolley

Dimensions: trolley mounted hoist

| Frame 1 | A ⁽¹⁾ | | B | | C | | D | | E | | F | | G | | H | |
|----------|------------------|-----|-------|-----|------|-----|-----|----|-------|-----|------|----|-------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA1-005M | 23.56 | 598 | 26.44 | 672 | 3.88 | 98 | - | - | 7.75 | 197 | 1.81 | 46 | 19.00 | 483 | 14.88 | 378 |
| HA1-010M | 30.50 | 775 | 26.44 | 672 | 3.88 | 98 | - | - | 7.75 | 197 | 2.59 | 66 | 19.00 | 483 | 14.88 | 378 |
| HA1-015M | 35.25 | 895 | 27.50 | 699 | 4.50 | 114 | - | - | 9.00 | 229 | 3.00 | 76 | 19.00 | 483 | 14.88 | 378 |
| HA1-020M | 34.56 | 878 | 32.00 | 813 | 5.88 | 149 | - | - | 11.75 | 298 | 3.63 | 92 | 21.25 | 540 | 16.75 | 425 |

| Frame 1 | J ⁽¹⁾ | | K | | L | | M | | N | | O | | P | | Q | |
|----------|------------------|------|------|-----|------|-----|------|-----|-------|-----|-------|-----|------|-----|------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA1-005M | 36.00 | 914 | 7.75 | 197 | 5.00 | 127 | 3.50 | 89 | 3.50 | 89 | 10.06 | 256 | 1.88 | 48 | 6.13 | 156 |
| HA1-010M | 43.75 | 1111 | 7.75 | 197 | 5.00 | 127 | 6.00 | 152 | 8.50 | 216 | 10.06 | 256 | 2.50 | 64 | 6.13 | 156 |
| HA1-015M | 48.75 | 1238 | 7.75 | 197 | 5.00 | 127 | 5.25 | 133 | 10.00 | 254 | 10.75 | 273 | 3.38 | 86 | 6.13 | 156 |
| HA1-020M | 50.19 | 1275 | 7.75 | 197 | 5.00 | 127 | 9.44 | 238 | 8.50 | 216 | 12.19 | 310 | 4.00 | 102 | 9.00 | 229 |

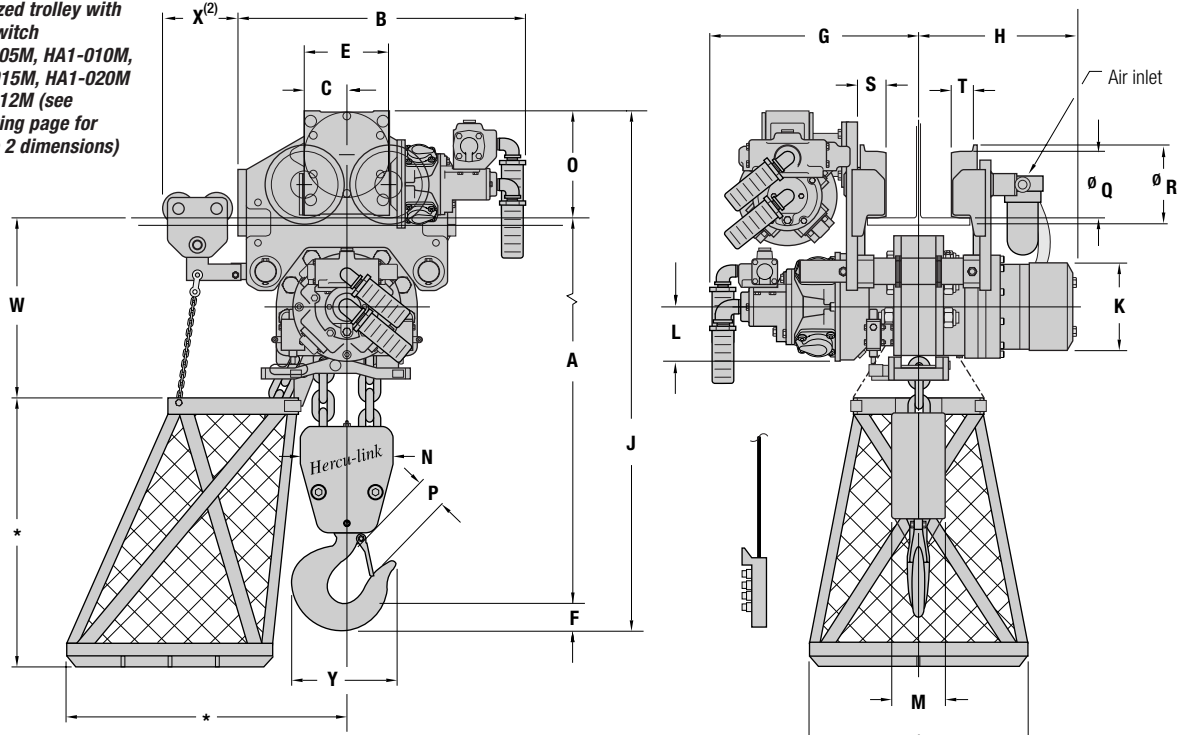
| Frame 1 | R | | S | | T | | W | | X ⁽²⁾ | | Y | | Z | |
|----------|-------|-----|------|----|------|----|-------|-----|------------------|-----|-------|-----|-----|----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA1-005M | 7.25 | 184 | 2.63 | 67 | 1.94 | 49 | 19.81 | 503 | 8.75 | 222 | 6.50 | 165 | - | - |
| HA1-010M | 7.25 | 184 | 2.63 | 67 | 1.94 | 49 | 19.81 | 503 | 8.75 | 222 | 8.69 | 221 | - | - |
| HA1-015M | 8.63 | 219 | 3.25 | 83 | 2.56 | 65 | 20.00 | 508 | 8.88 | 225 | 11.00 | 279 | - | - |
| HA1-020M | 11.63 | 295 | 3.06 | 78 | 2.19 | 56 | 19.50 | 495 | 6.00 | 152 | 13.63 | 346 | - | - |

Important:
It is the user's responsibility to specify proper beam size for the maximum wheel loading. Consult with a qualified engineer.

(1) For Frame 1 models with the limit switch option, add approximately 1.5" to dimensions A and J.

(2) Chain bucket includes trailing trolley on HA1-015M and any other model with 35 feet (10.7 m) of lift or more.

4-wheel motorized trolley with optional limit switch
Frame 1: HA1-005M, HA1-010M, HA1-015M, HA1-020M
Frame 2: HA2-012M (see following page for Frame 2 dimensions)



Dimensions are subject to change. Contact factory for certified prints

Hercu-Link™ Air Chain Hoist

5 to 100 metric ton lifting capacity



Trolley specifications

| Model no. | Capacity tons | Speed | | Flange adj | | Wheel tread dia | | Wheel loading/pair | | Min inside curve radius | | Air cons. (1) | |
|------------------------------|---------------|-----------------------------------|------------|------------|-----------|-----------------|-----|--------------------|-------|-------------------------|------|---------------|---------------------|
| | | fpm | m/min | in | mm | in. | mm | lbs | kg | in. | mm | cfm | m ³ /min |
| Frame 2 (22 mm chain) | | | | | | | | | | | | | |
| HA2-012M (or V) | 12.5 | 40 ² (20) ³ | 12.2 (6.1) | 6 – 8 | 152 – 203 | 6.88 | 175 | 14458 | 6572 | 72 | 1829 | See note 1 | |
| HA2-025M (or V) | 25 | 40 (20) | 12.2 (6.1) | 6 – 8 | 152 – 203 | 6.88 | 175 | 14165 | 6439 | n/a | n/a | See note 1 | |
| HA2-037M (or V) | 37.5 | 40 (20) | 12.2 (6.1) | 8 – 10 | 203 – 254 | 9.00 | 229 | 21550 | 9795 | n/a | n/a | See note 1 | |
| HA2-050M (or V) | 50 | 40 (20) | 12.2 (6.1) | 8 – 10 | 203 – 254 | 9.00 | 229 | 28666 | 13030 | n/a | n/a | See note 1 | |

(1) 180 cfm (5.1 m³/min) for vane motor trolley; 75 cfm (2.1 m³/min) for piston motor trolley

(2) Piston motor trolley

(3) Vane motor trolley

Dimensions: trolley mounted hoist

| Frame 2 | A | | B | | C | | D | | E | | F | | G | | H | |
|----------|-------|------|-------|------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HA2-012M | 35.88 | 911 | 29.50 | 749 | 4.50 | 114 | – | – | 9.00 | 229 | 2.56 | 65 | 19.50 | 495 | 14.25 | 362 |
| HA2-025M | 40.94 | 1040 | 61.75 | 1568 | 22.75 | 578 | 24.25 | 616 | 9.00 | 229 | 3.63 | 92 | 19.50 | 495 | 14.25 | 362 |
| HA2-037M | 48.94 | 1243 | 64.88 | 1648 | 24.00 | 610 | 26.50 | 673 | 11.75 | 298 | 5.06 | 129 | 22.50 | 572 | 17.25 | 438 |
| HA2-050M | 53.00 | 1346 | 64.88 | 1648 | 18.13 | 460 | 27.13 | 689 | 11.75 | 298 | 6.50 | 165 | 22.50 | 572 | 17.25 | 438 |
| | J | | K | | L | | M | | N | | O | | P | | Q | |
| HA2-012M | 49.25 | 1251 | 9.63 | 244 | 9.88 | 251 | 4.50 | 114 | 4.50 | 114 | 10.75 | 273 | 2.50 | 64 | 6.88 | 175 |
| HA2-025M | 56.00 | 1422 | 9.63 | 244 | 9.88 | 251 | 6.88 | 175 | 11.25 | 286 | 11.44 | 291 | 4.00 | 102 | 6.88 | 175 |
| HA2-037M | 67.00 | 1702 | 9.63 | 244 | 9.88 | 251 | 11.13 | 283 | 11.25 | 286 | 13.00 | 330 | 4.75 | 121 | 9.00 | 229 |
| HA2-050M | 72.50 | 1842 | 9.63 | 244 | 9.88 | 251 | 12.63 | 321 | 11.25 | 286 | 13.00 | 330 | 6.50 | 165 | 9.00 | 229 |
| | R | | S | | T | | W | | X (1) | | Y | | Z | | | |
| HA2-012M | 8.63 | 219 | 3.25 | 83 | 2.56 | 65 | 24.44 | 697 | 8.75 | 222 | 8.69 | 221 | – | – | | |
| HA2-025M | 8.63 | 219 | 3.19 | 81 | 2.56 | 65 | 19.06 | 484 | – | – | 13.63 | 346 | 27.50 | 699 | | |
| HA2-037M | 11.38 | 289 | 3.06 | 78 | 2.56 | 56 | 19.19 | 487 | – | – | 15.44 | 392 | 24.50 | 622 | | |
| HA2-050M | 11.38 | 289 | 3.06 | 78 | 2.56 | 56 | 19.19 | 487 | – | – | 20.63 | 524 | 24.50 | 622 | | |

Important:
It is the user's responsibility to specify proper beam size for the maximum wheel loading. Consult with a qualified engineer.

Frame 3

HA3-075M

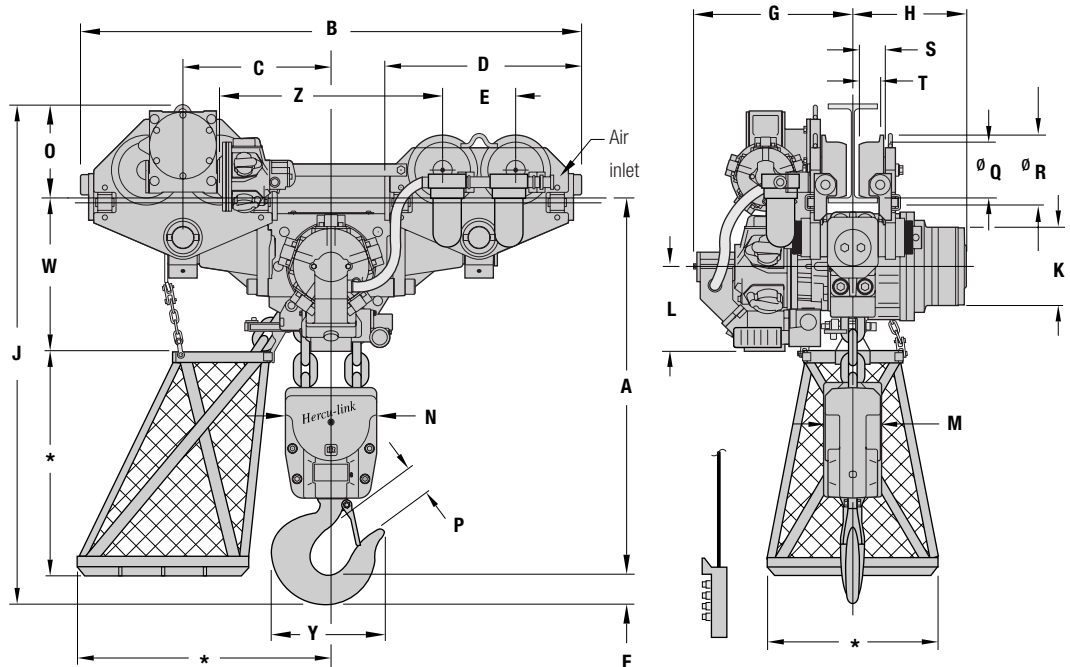
HA3-100M

Contact Technical Sales for product specifications for 75 and 100 ton models.

(1) Chain bucket includes trailing trolley on HA2-012M and any other model with 35 feet (10.7 m) of lift or more.

8-wheel motorized trolley

Frame 2: HA2-025M,
HA2-037M,
HA2-050M



Dimensions are subject to change. Contact factory for certified prints

Hercu-Link™ Air Chain Hoist

5 to 100 metric ton lifting capacity



How to order standard equipment:

Specify the complete model as shown. Specify beam size, type and flange width. **Example: HA1-005MA3-30-27L**

| Series | Frame size | - | Capacity | Suspension | Trolley flange adj. | Control | - | Lift | - | Control drop | Options | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------|-----------|--|------------|---------------------|--|-----|-----------|-----|--------------|----------|-----|------|----------|-----|------|----------|----------|--|--|-----|--------|----------|-----|------|----------|-----|--------|----------|-----|------|-----------|----------|--|--|-----|------|-----------|-----|-------|-----------|--|--|--|--|--|--|
| HA | 1 | - | 005 | M | A | 3 | - | 30 | - | 27 | L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>H = Hercu-Link series</p> <p>A = Air powered</p> <p>H = Hydraulically powered available on request</p> <p>Note: See Electric Hercu-Link section for electric models.</p> | | | <p>H = Hook mount</p> <p>C = Clevis mount**</p> <p>D = Deck mount**</p> <p>P = Plain trolley</p> <p>G = Geared trolley</p> <p>V = Vane motor trolley</p> <p>M = Piston motor trolley</p> <p>R = Rack/pinion drive</p> <p>** Mounting information must be supplied.</p> | | | <p>XX = Length of lift</p> <p>XX = Control drop pendent (6 ft/2m standard)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <th>tons</th> <th>lbs.</th> </tr> </thead> <tbody> <tr> <td>1 005</td> <td>= 5</td> <td>= 11,000</td> </tr> <tr> <td>010</td> <td>= 10</td> <td>= 22,000</td> </tr> <tr> <td>015</td> <td>= 15</td> <td>= 33,000</td> </tr> <tr> <td>020</td> <td>= 20</td> <td>= 44,000</td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>012</td> <td>= 12.5</td> <td>= 27,500</td> </tr> <tr> <td>025</td> <td>= 25</td> <td>= 55,000</td> </tr> <tr> <td>037</td> <td>= 37.5</td> <td>= 82,500</td> </tr> <tr> <td>050</td> <td>= 50</td> <td>= 110,000</td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> <tr> <td>075</td> <td>= 75</td> <td>= 165,000</td> </tr> <tr> <td>100</td> <td>= 100</td> <td>= 220,000</td> </tr> </tbody> </table> | | | | tons | lbs. | 1 005 | = 5 | = 11,000 | 010 | = 10 | = 22,000 | 015 | = 15 | = 33,000 | 020 | = 20 | = 44,000 | 2 | | | 012 | = 12.5 | = 27,500 | 025 | = 25 | = 55,000 | 037 | = 37.5 | = 82,500 | 050 | = 50 | = 110,000 | 3 | | | 075 | = 75 | = 165,000 | 100 | = 100 | = 220,000 | <p>A = Standard</p> <p>B = 2" (50.8 mm) extension</p> <p>C = 4" (101.6 mm) extension</p> <p>D = 6" (152.4 mm) extension</p> <p>M = No trolley used with hook, clevis and deck mount</p> | | | <p>1 = Pull rope</p> <p>2 = 1 motor pendent (2 button)</p> <p>3 = 2 motor pendent (4 button)</p> <p>4 = 3 motor pendent (6 button)</p> <p>5 = 1 motor pendent with on/off</p> <p>6 = 2 motor pendent with on/off</p> <p>7 = 3 motor pendent with on/off</p> | | |
| | tons | lbs. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 005 | = 5 | = 11,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 010 | = 10 | = 22,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 015 | = 15 | = 33,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 020 | = 20 | = 44,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 012 | = 12.5 | = 27,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 025 | = 25 | = 55,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 037 | = 37.5 | = 82,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 050 | = 50 | = 110,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 075 | = 75 | = 165,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | = 100 | = 220,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | <p>A = Accu-Trol pendent</p> <p>B = Trolley bumpers (Frame 1 only; standard on Frame 2)</p> <p>C = Low temperature; please specify in text: -10° C or -20° C</p> <p>D = Trolley drive disc brake</p> <p>G = Trolley guide rollers (Frame 1 only; standard on Frame 2)</p> <p>L = Upper and lower limit switch (Frame 1 only; standard on Frame 2)</p> <p>M1 = Per DIN 50049/En10204 Para 2.2 "Typicals"</p> <p>M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased</p> <p>M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition</p> <p>N = Special paint; add code option and specify in text</p> <p>P = Marine 812 finish</p> <p>Q = 60 psi (4 bar) application package</p> <p>R = Copper plate S•COR•E package (see description below)</p> <p>S = Solid bronze S•COR•E package (see description below)</p> <p>T = Galvanized chain container</p> <p>Y = Hull bumper (for hook mounted shipyard hoist)</p> <p>Z = Sandblast and carbozinc primer only</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Accessories

| Series | Air inlet size | Filter | Lubricator | Regulator |
|------------|-------------------|-------------|-------------|----------------|
| HA1 | ¾ in. (19 mm) NPT | F28-06-SK00 | L28-06-LK00 | R28-06-F0G0-28 |
| HA2 | 1 in. (25 mm) NPT | F30-08-000 | L30-08-000 | R30-08-G00 |

■ S•COR•E (Option codes R and S)

- R** = The product will be equipped with zinc plated load chain, copper plated load hook(s) and trolley wheels. Zinc plated hand chain if applicable.
- S** = Up to 20 ton units will be equipped with zinc plated load chain, solid bronze load hook(s) and trolley wheels. Zinc plated hand chain if applicable.

Liftchain LCA Lube Free Air Hoist Series 1.5 to 100 metric ton lifting capacity

The Liftchain LCA series is the latest in gear motor air chain hoist design. Setting new standards by offering a modular and compact design, the Liftchain LCA series is intended for tough industrial applications, offshore oil rigs, shipyard construction, petrochemical, refineries, foundries, steel mills, mining, etc....

The Liftchain LCA series offers standard features that reduce maintenance, increase safety, and provide rugged reliability, enhanced control and superior performance.

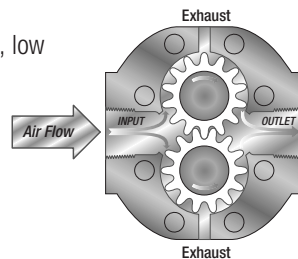
The Liftchain LCA is designed in conformance with the requirements set by the FEM standard (classification 1Bm or ISOM3), ISO, and ANSI/ASME B30.16. The CE versions include all the safety features required by the European Machinery Directive.

■ Standard features:

- Lube free gear type air motor provides long life, low maintenance and no environmental pollution (not effected by dust and humidity)
- Automatic fail safe, multi-disc oil bath disc brake (no adjustment required)
- Excellent spotting characteristics with the PHS progressive remote pilot pendant or pull rope control (6.5 ft/2 meter control is standard)
- Built in overload protection and main air shut off valve (CE models only) means no loss of headroom. Efficiency and accuracy of the system are excellent
- Emergency stop and reset button on pendant (CE models only) (as per EN 418 standard)
- Top and bottom limit switches are integrated into the hoist body for a more compact design
- All steel/cast iron construction
- Zinc plated load chain for corrosion resistance (10 ft/3 meters standard)
- 5:1 design factor at rated load
- Bottom hook mounted on bearing with external lubrication point
- Integrated exhaust muffler for quieter operation
- Built in retractable handles for easy handling
- Working pressure range of 60 – 100 psi (4 to 7 bar)
- Low air consumption/low maintenance
- Inherently flame and explosion proof design
- Available in hook, plain, geared and motorized trolleys (also lube free)

■ Options and accessories:

- Variable lengths of lift and control
- Spark and corrosion resistant packages
- Articulated trolley for BOP handling
- Special mining models
- "Flex" units allow for easy customization
- Chain containers
- Marine paint
- Offshore paint (290 μ DFT)
- Sandblast and primer
- Hydraulic versions



Liftchain hook mounted air chain hoist



Liftchain trolley mounted air chain hoist

Liftchain LCA Lube Free Air Hoist Series

1.5 to 100 metric ton lifting capacity



Hook mounted hoist specifications at 90 psi (6.3 bar) air inlet pressure with motor running

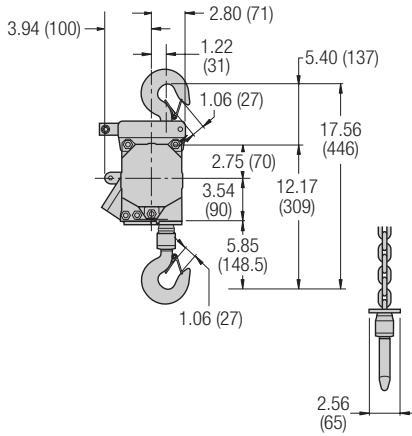
| Model no. (1) (Hoist only) | Cap. metric tons | Chain falls | Lifting speed at rated load | | Lifting speed at no load | | Lowering speed at rated load | | Average air consumption | | Standard headroom | | Net weight (2) | | Wt of chain per m of lift | |
|-------------------------------|------------------|-------------|-----------------------------|-------|--------------------------|-------|------------------------------|-------|-------------------------|---------------------|-------------------|------|----------------|-----|---------------------------|------|
| | | | fpm | m/min | fpm | m/min | fpm | m/min | scfm | m ³ /min | in. | mm | lbs | kg | lbs | kg |
| LCA015SIP or SIC | 1.5 | 1 | 13.12 | 4.0 | 24.6 | 7.5 | 21.3 | 6.5 | 74 | 2.1 | 17.56 | 446 | 110 | 50 | 3.3 | 1.5 |
| LCA030DIP or DIC | 3 | 2 | 6.56 | 2.0 | 12.0 | 3.7 | 10.5 | 3.2 | 74 | 2.1 | 23.19 | 589 | 132 | 60 | 6.6 | 3.0 |
| LCA030SIP or SIC | 3 | 1 | 10.5 | 3.2 | 19.7 | 6.0 | 23.0 | 7.0 | 124 | 3.5 | 22.80 | 579 | 176 | 80 | 8.4 | 3.8 |
| LCA060DIP or DIC | 6 | 2 | 5.2 | 1.6 | 9.8 | 3.0 | 11.5 | 3.5 | 124 | 3.5 | 29.33 | 745 | 220 | 100 | 16.7 | 7.6 |
| LCA060SIP or SIC | 6 | 1 | 5.9 | 1.8 | 11.8 | 3.6 | 9.8 | 3.0 | 124 | 3.5 | 29.60 | 752 | 286 | 130 | 12.5 | 5.7 |
| LCA120DIP or DIC | 12 | 2 | 2.95 | 0.9 | 5.9 | 1.8 | 4.9 | 1.5 | 124 | 3.5 | 39.02 | 991 | 396 | 180 | 25.3 | 11.4 |
| LCA180TIP or TIC | 18 | 3 | 1.64 | 0.5 | 3.28 | 1.0 | 3.28 | 1.0 | 124 | 3.5 | 42.64 | 1083 | 484 | 220 | 38.0 | 17.1 |
| LCA250QIP or QIC | 25 | 4 | 1.31 | 0.4 | 2.62 | 0.8 | 2.46 | 0.75 | 124 | 3.5 | 46.46 | 1180 | 506 | 230 | 50.6 | 23.0 |
| LCA750TIP or TIC | 75 | | | | | | | | | | | | | | | |
| LCA1000QIP or QIC | 100 | | | | | | | | | | | | | | | |

Contact Technical Sales for product specifications for 75 and 100 ton models.

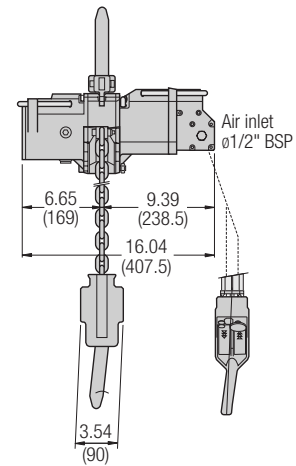
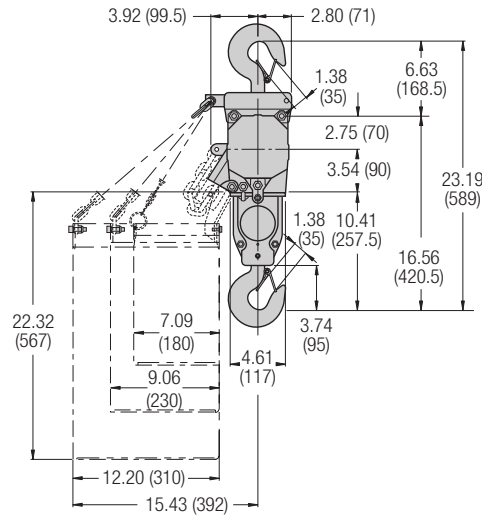
(1) SIP = hoist with pendent control; for hook mounted or trolley mounted models. SIC = hoist with pull cord control; for hook mounted models only.
 (2) Net weights are given with standard lift of 10 ft (3 m) and standard control length of 6.6 ft (2 m).

Dimensions: hook mounted hoist

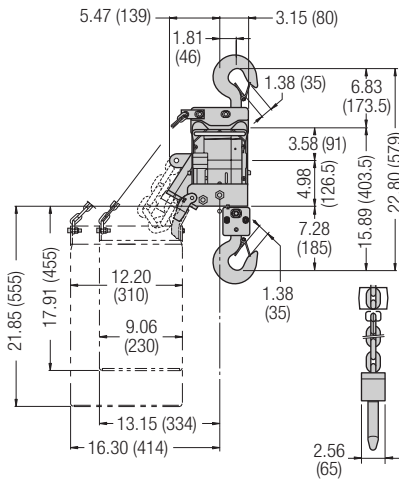
LCA015S (1.5 metric ton) in inches (mm)



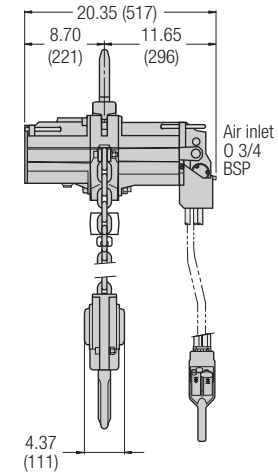
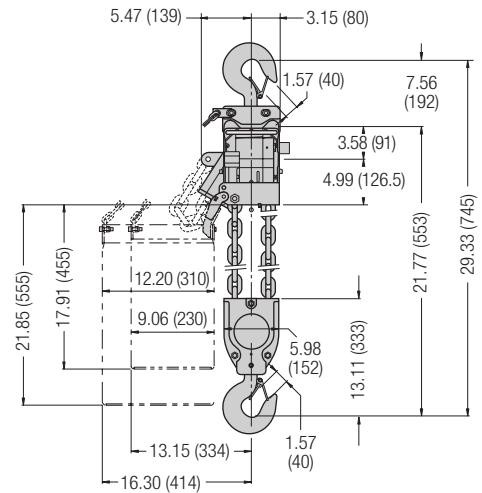
LCA030D (3 metric ton) in inches (mm)



LCA030S (3 metric ton) in inches (mm)



LCA060D (6 metric ton) in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

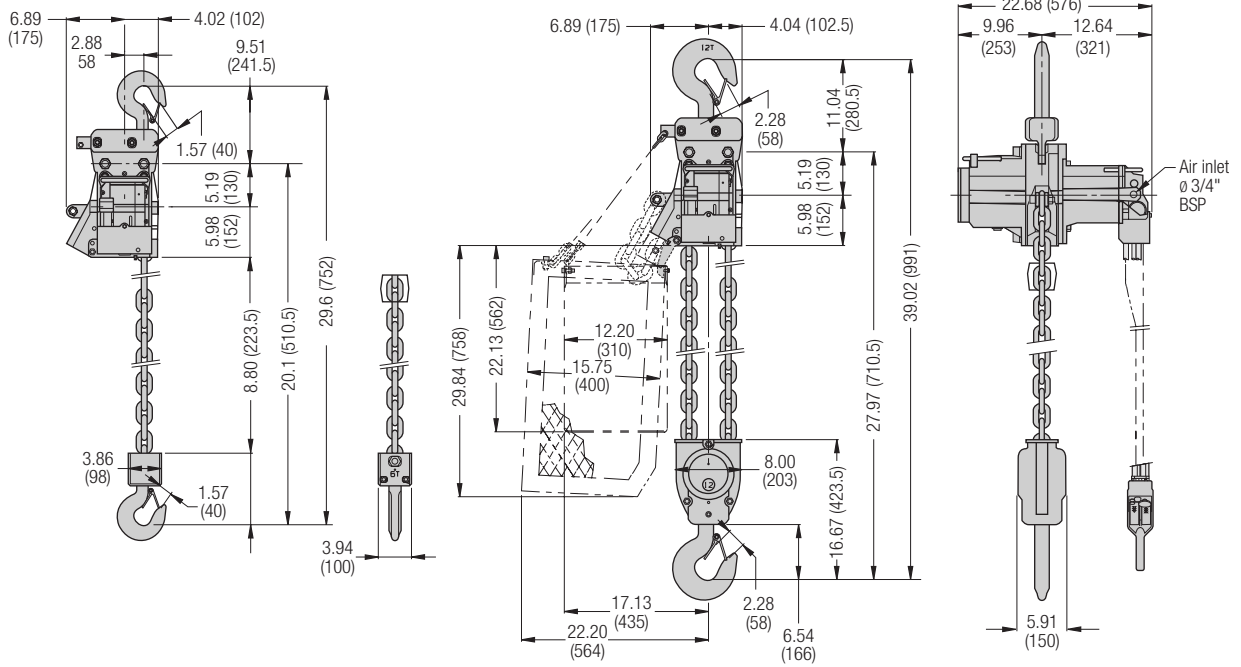
Liftchain LCA Lube Free Air Hoist Series

1.5 to 100 metric ton lifting capacity

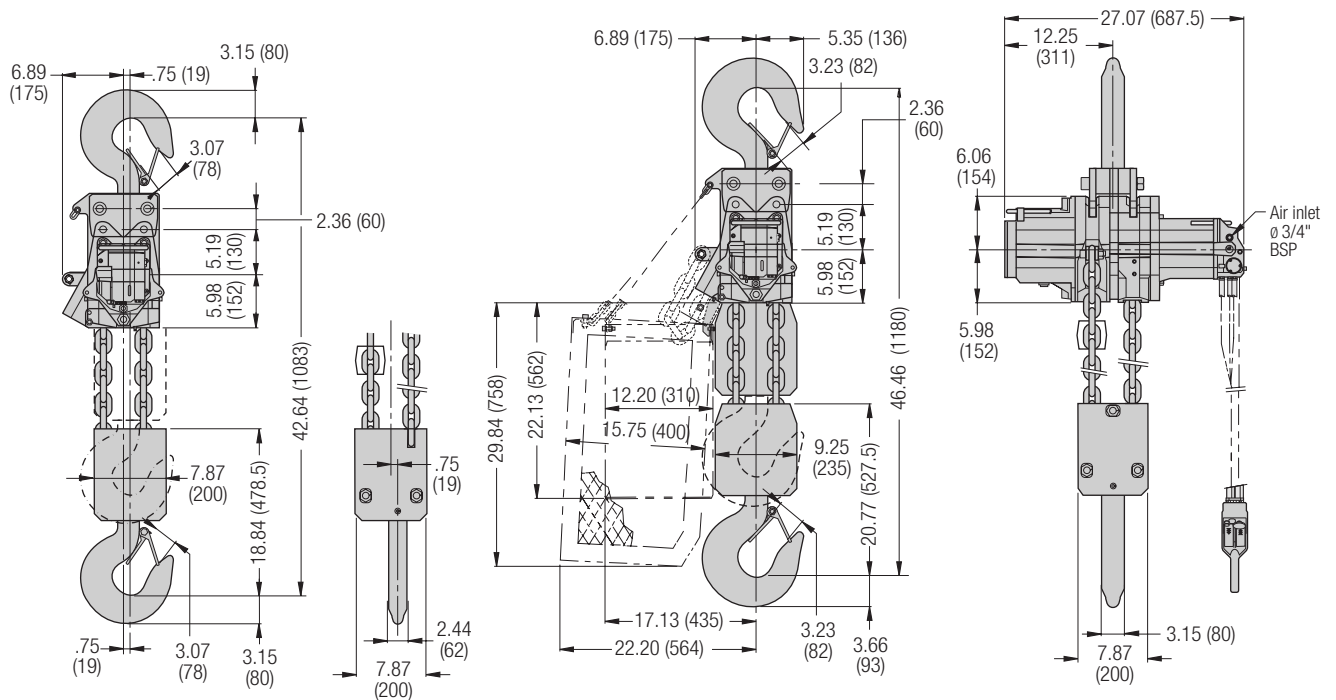


Dimensions: hook mounted hoist

LCA060S (6 metric ton) and LCA120D (12 metric ton) in inches (mm)



LCA180T (18 metric ton) and LCA250Q (25 metric ton) in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

Liftchain LCA Lube Free Air Hoist Series
1.5 to 100 metric ton lifting capacity

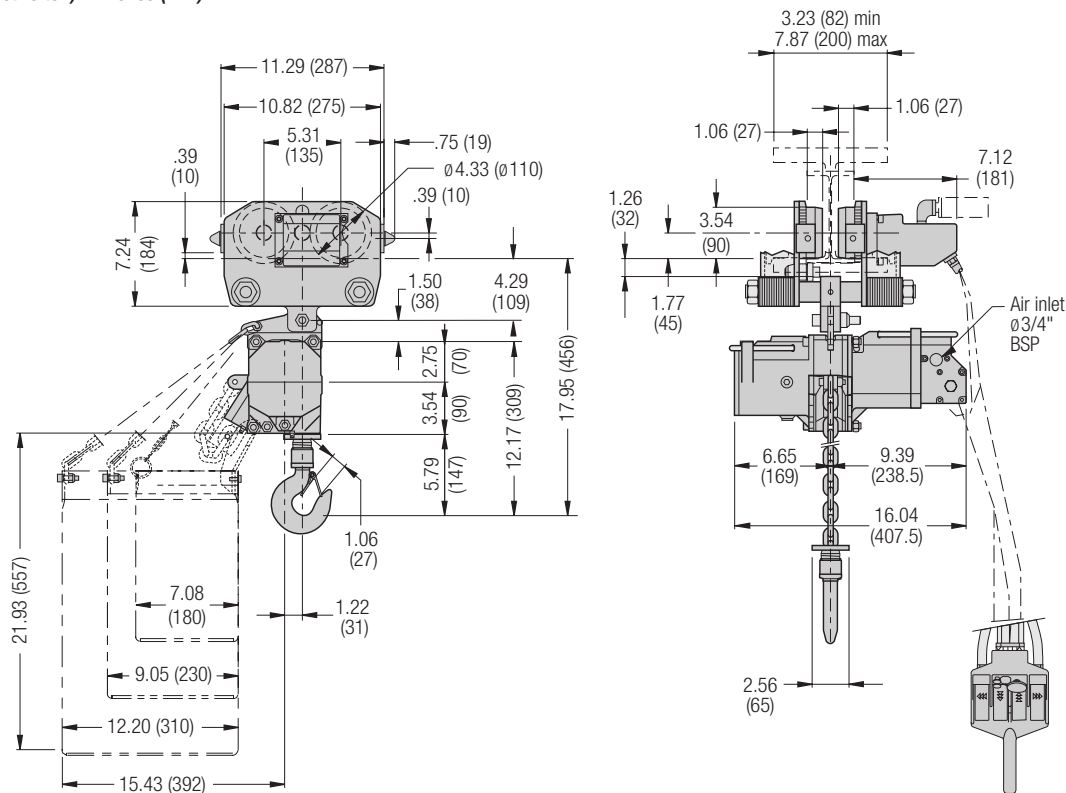


Trolley mounted hoist specifications at 90 psi (6.3 bar) air inlet pressure with motor running

| Model no. (hoist with trolley) | Trolley type | Cap. metric tons | Flange adjustment | | Standard headroom | | Min. inside curve radius | | Max. traverse speed | | | | Average air consumption | | Total weight w/std hoist | |
|-----------------------------------|--------------|------------------|-------------------|---------|-------------------|--------|--------------------------|---|---------------------|-------|------|-------|-------------------------|---------------------|--------------------------|-----|
| | | | in. | mm | in. | mm | ft | m | fpm | m/min | fpm | m/min | scfm | m ³ /min | lbs | kg |
| LCA015SIP2P | Plain | 1.5 | 3.2-7.9 | 82-200 | 17.95 | 456 | 3.28 | 1 | - | - | - | - | - | - | 187 | 85 |
| LCA015SIP2G | Gearred | 1.5 | 3.2-7.9 | 82-200 | 17.95 | 456 | 3.28 | 1 | - | - | - | - | - | - | 191 | 87 |
| LCA015SIP2R | Motor | 1.5 | 3.2-7.9 | 82-200 | 17.95 | 456 | 3.28 | 1 | 59.0 | 18 | 75.4 | 23 | 46 | 1.3 | 198 | 90 |
| LCA030DIP2P | Plain | 3 | 3.2-12.2 | 82-310 | 24.7 | 627.5 | 6.56 | 2 | - | - | - | - | - | - | 253 | 115 |
| LCA030DIP2G | Gearred | 3 | 3.2-12.2 | 82-310 | 24.7 | 627.5 | 6.56 | 2 | - | - | - | - | - | - | 257 | 117 |
| LCA030DIP2R | Motor | 3 | 3.2-12.2 | 82-310 | 24.7 | 627.5 | 6.56 | 2 | 56.0 | 17 | 69.0 | 21 | 46 | 1.3 | 264 | 120 |
| LCA030SIP2P | Plain | 3 | 3.2-12.2 | 82-310 | 24.15 | 613.5 | 6.56 | 2 | - | - | - | - | - | - | 341 | 155 |
| LCA030SIP2G | Gearred | 3 | 3.2-12.2 | 82-310 | 24.15 | 613.5 | 6.56 | 2 | - | - | - | - | - | - | 345 | 157 |
| LCA030SIP2R | Motor | 3 | 3.2-12.2 | 82-310 | 24.15 | 613.5 | 6.56 | 2 | 56.0 | 17 | 69.0 | 21 | 46 | 1.3 | 352 | 160 |
| LCA060DIP2P | Plain | 6 | 3.7-12.2 | 98-310 | 31.08 | 789.9 | 9.84 | 3 | - | - | - | - | - | - | 446 | 203 |
| LCA060DIP2G | Gearred | 6 | 3.7-12.2 | 98-310 | 31.08 | 789.9 | 9.84 | 3 | - | - | - | - | - | - | 462 | 210 |
| LCA060DIP2R | Motor | 6 | 3.7-12.2 | 98-310 | 31.08 | 789.9 | 9.84 | 3 | 39.4 | 12 | 49.2 | 15 | 67 | 1.9 | 484 | 220 |
| LCA060SIP2P | Plain | 6 | 3.7-12.2 | 98-310 | 35.1 | 891.5 | 9.84 | 3 | - | - | - | - | - | - | 557 | 253 |
| LCA060SIP2G | Gearred | 6 | 3.7-12.2 | 98-310 | 35.1 | 891.5 | 9.84 | 3 | - | - | - | - | - | - | 572 | 260 |
| LCA060SIP2R | Motor | 6 | 3.7-12.2 | 98-310 | 35.1 | 891.5 | 9.84 | 3 | 39.4 | 12 | 49.2 | 15 | 67 | 1.9 | 594 | 270 |
| LCA120DIP2P | Plain | 12 | 5.1-12.2 | 131-310 | 39.51 | 1003.5 | 9.84 | 3 | - | - | - | - | - | - | 741 | 337 |
| LCA120DIP2G | Gearred | 12 | 5.1-12.2 | 131-310 | 39.51 | 1003.5 | 9.84 | 3 | - | - | - | - | - | - | 759 | 345 |
| LCA120DIP2R | Motor | 12 | 5.1-12.2 | 131-310 | 39.51 | 1003.5 | 9.84 | 3 | 39.4 | 12 | 49.2 | 15 | 67 | 1.9 | 779 | 354 |
| LCA180TIP2P | Plain | 18 | 5.6-12.2 | 143-310 | 48.78 | 1239 | 16.4 | 5 | - | - | - | - | - | - | 920 | 418 |
| LCA180TIP2R | Motor | 18 | 5.6-12.2 | 143-310 | 48.78 | 1239 | 16.4 | 5 | 39.4 | 12 | 49.2 | 15 | 67 | 1.9 | 957 | 435 |
| LCA250QIP2P | Plain | 25 | 5.6-12.2 | 143-310 | 50.69 | 1287.5 | 16.4 | 5 | - | - | - | - | - | - | 953 | 433 |
| LCA250QIP2R | Motor | 25 | 5.6-12.2 | 143-310 | 50.69 | 1287.5 | 16.4 | 5 | 39.4 | 12 | 49.2 | 15 | 67 | 1.9 | 990 | 450 |

Dimensions: trolley mounted hoist

LCA015S (1.5 metric ton) in inches (mm)

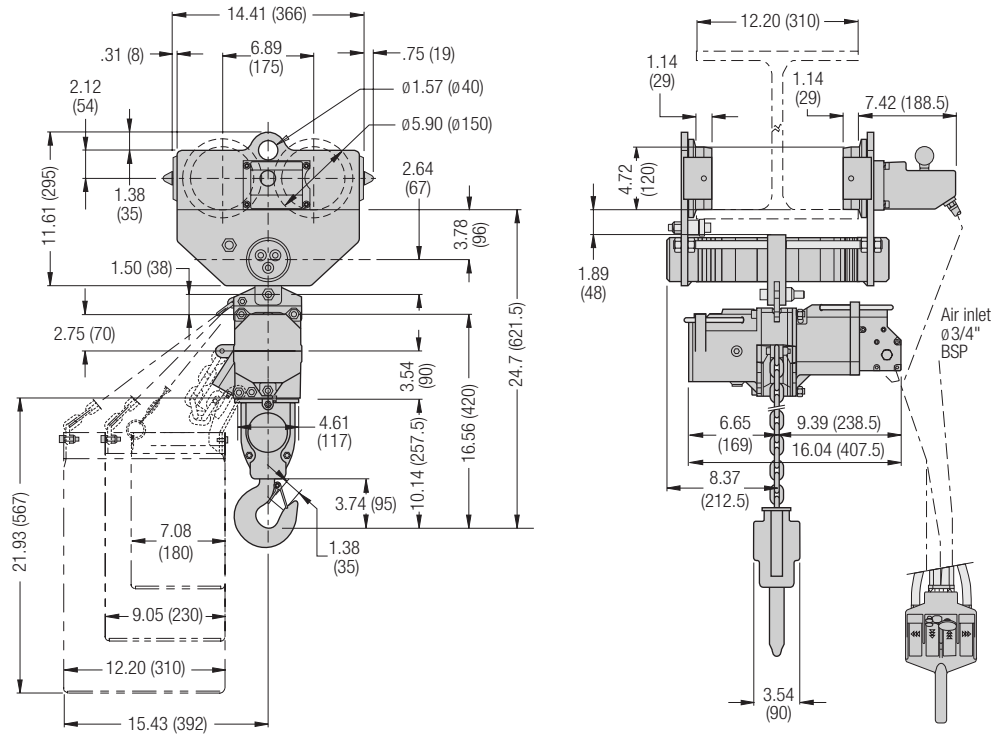


Dimensions are subject to change. Contact factory for certified prints

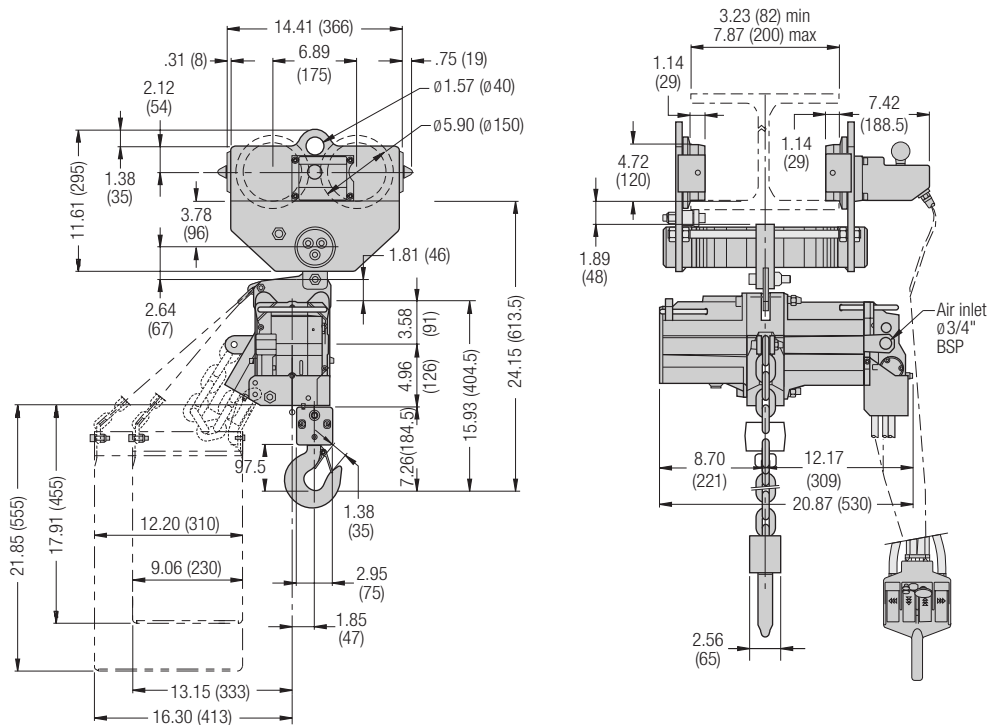
Liftchain LCA Lube Free Air Hoist Series
1.5 to 100 metric ton lifting capacity

Dimensions: trolley mounted hoist

LCA030D (3 metric ton) in inches (mm)



LCA030S (3 metric ton) in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

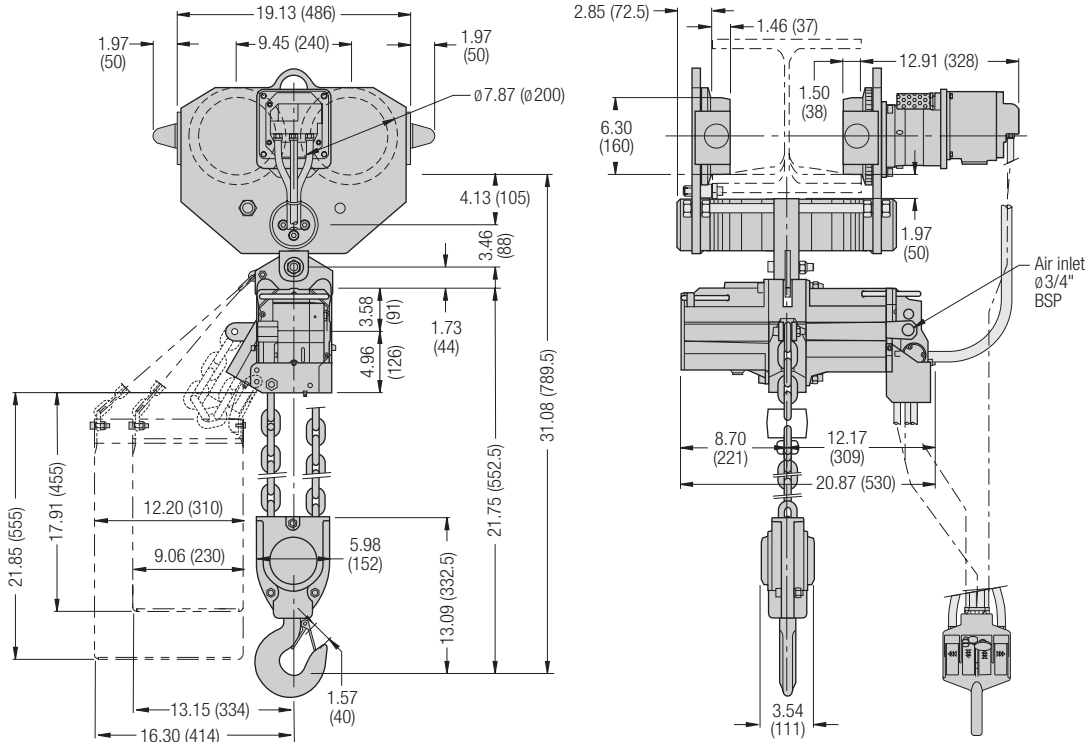
Liftchain LCA Lube Free Air Hoist Series

1.5 to 100 metric ton lifting capacity

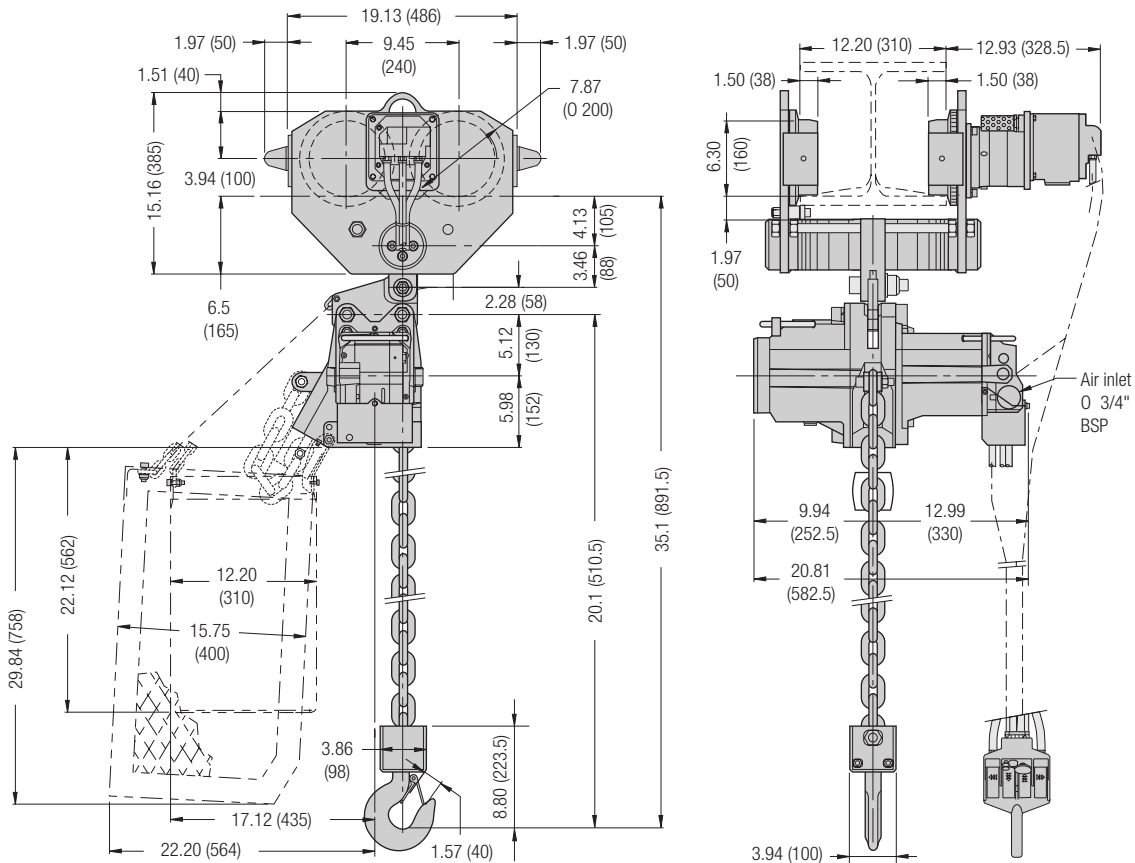


Dimensions: trolley mounted hoist

LCA060D (6 metric ton) in inches (mm)



LCA060S (6 metric ton) in inches (mm)

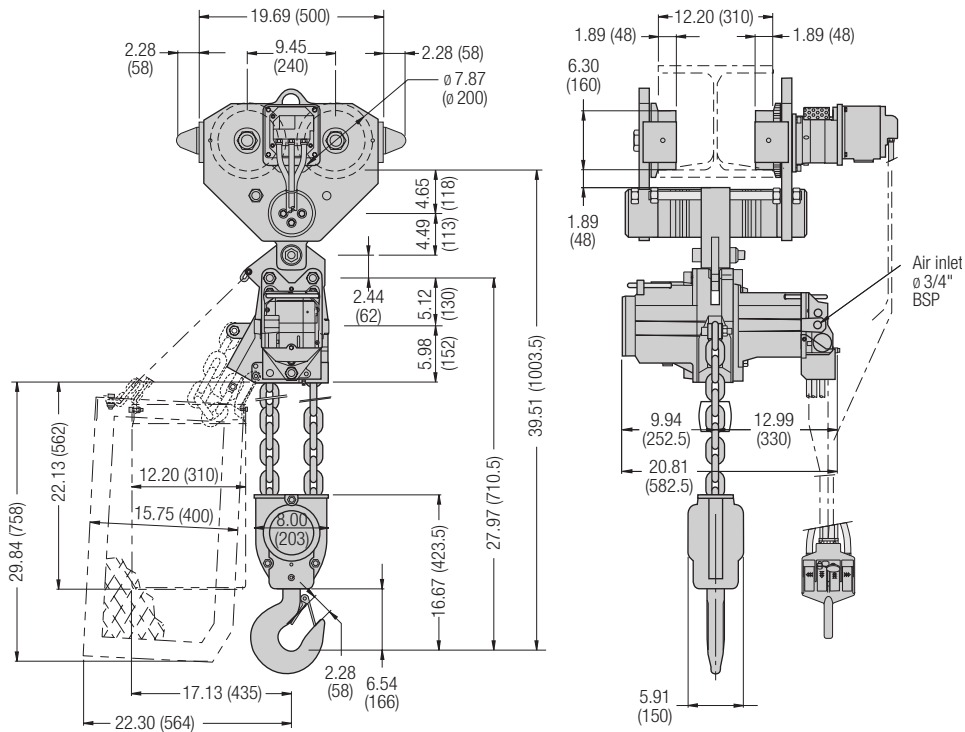


Dimensions are subject to change. Contact factory for certified prints

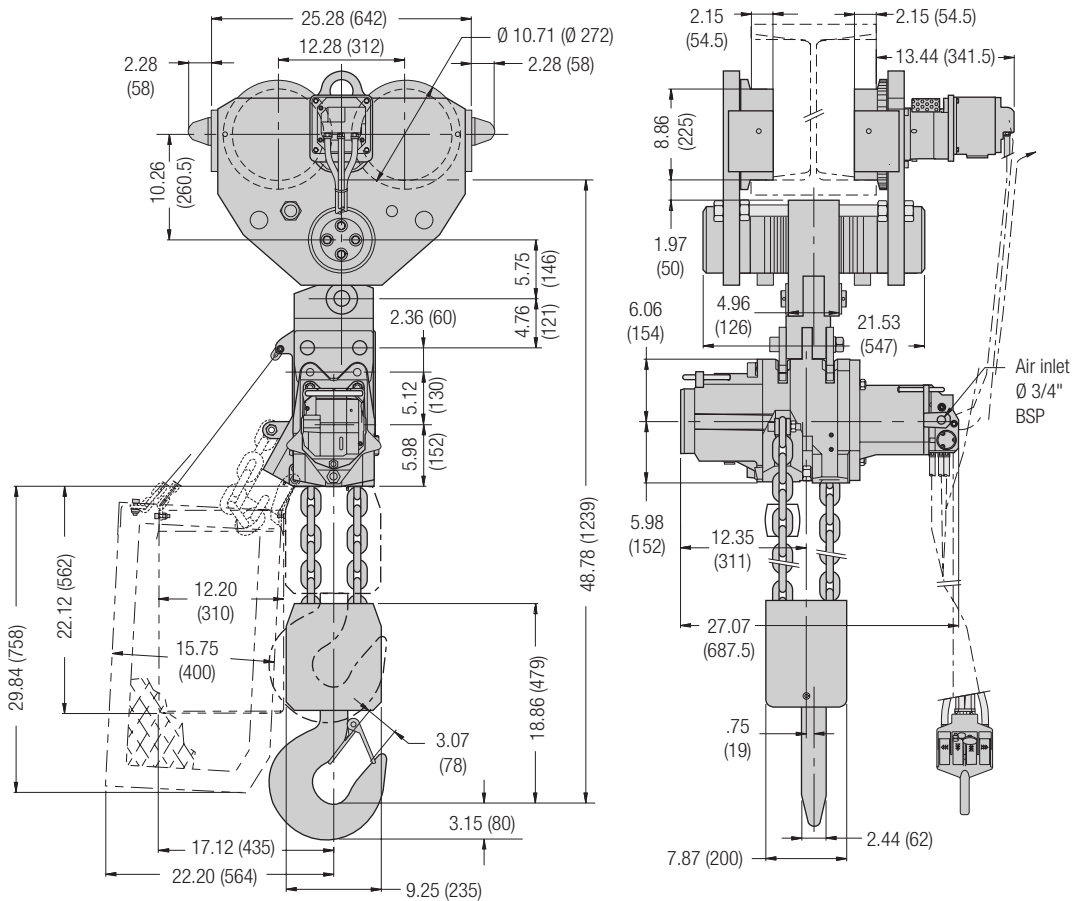
Liftchain LCA Lube Free Air Hoist Series
1.5 to 100 metric ton lifting capacity

Dimensions: trolley mounted hoist

LCA120D (12 metric ton) in inches (mm)



LCA180T (18 metric ton) in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

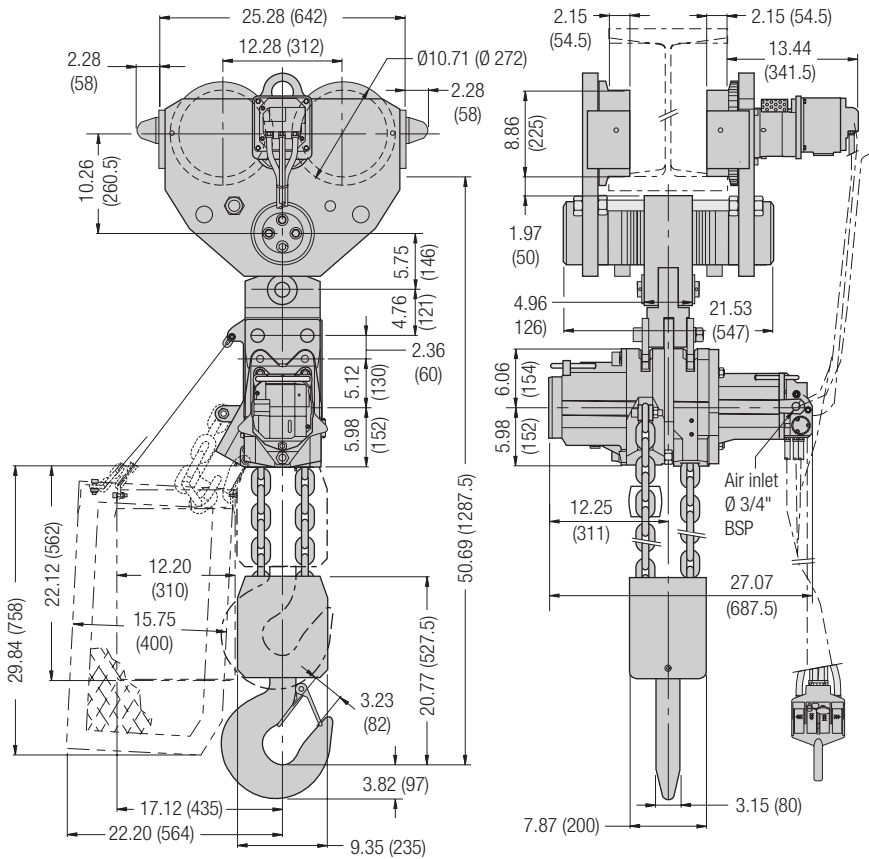
Liftchain LCA Lube Free Air Hoist Series

1.5 to 100 metric ton lifting capacity



Dimensions: trolley mounted hoist

LCA250Q (25 metric ton) in inches (mm)



Pendent handles

| Type | Part no. | Dimensions (BSP air inlet) | | | | |
|------------|----------|----------------------------|------|------|------|------|
| | | A | B | C | D | E |
| Single mtr | PHS2E | 1/4" | 1/4" | - | - | - |
| Two mtrs | PHS4E | 1/4" | 1/4" | - | - | 1/4" |
| Single mtr | PHS2E-U | 1/4" | 1/4" | 1/4" | 1/4" | - |
| Two mtrs | PHS4E-U | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" |

| Hoist series | Air inlet size |
|--|----------------|
| LCA015S & LCA030D | 1/2" BSP |
| LCA030S, 060D, 060S 120D, 180T & 250Q | 3/4" BSP |

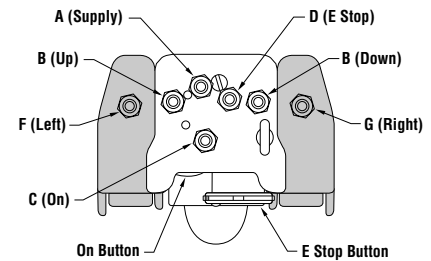
PHS2D-U

Single motor pendent handle

Addition of the shaded area is for the

PHS4D-U

Two motor pendent handle



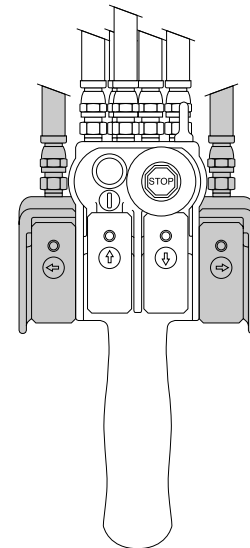
Chain buckets

| Hoist series | Option code/ material | Capacity | | Corresponding height of lift | | | | Bucket part no. |
|--------------------|--------------------------|----------|----|------------------------------|-----|------|------|-----------------|
| | | ft | m | ft | m | ft | m | |
| LCA015S LCA030D | A/canvas | 39.4 | 12 | 39.4 | 12 | 19.7 | 6 | CB030D-12M |
| | B/canvas | 98.4 | 30 | 98.4 | 30 | 49.2 | 15 | CB030D-30M |
| | C/canvas | 196.8 | 60 | 196.8 | 60 | 98.4 | 30 | CB030D-60M |
| LCA030S LCA060D | A/canvas | 39.4 | 12 | 39.4 | 12 | 19.7 | 6 | CB060D-12M |
| | B/canvas | 98.4 | 25 | 82.0 | 25 | 41.0 | 12.5 | CB060D-25M |
| LCA060S LCA120D | A/canvas | 39.4 | 12 | 39.4 | 12 | 19.7 | 6 | CB120D-12M |
| | B/metal | 85.3 | 26 | 85.3 | 26 | 42.6 | 13 | CB120D-26M |
| LCA180T LCA250Q | A/canvas | 39.4 | 12 | 13.1 | 4 | 9.8 | 3 | CB120D-12M |
| | B/metal | 85.3 | 26 | 27.9 | 8.5 | 21.3 | 6.5 | CB120D-26M |

Link load chain / zinc plated

| Hoist series | Bulk part no. | Chain size | | Weight per lineal meter | |
|--|---------------|---------------|-------|-------------------------|------|
| | | dia/pitch in. | mm | lbs | kg |
| LCA015S LCA030D | LC824-G8ZP | .3x.9 | 8x24 | 3.3 | 1.5 |
| LCA030S LCA060D | LC1336-G8ZP | .5x1.4 | 13x36 | 8.47 | 3.85 |
| LCA060S LCA120D LCA180T LCA250Q | 17671 | .63x1.8 | 16x45 | 12.65 | 5.75 |

Dimensions are subject to change.
Contact factory for certified prints



Liftchain LCA Lube Free Air Hoist Series

1.5 to 100 metric ton lifting capacity



How to order standard equipment

Specify the complete model number as shown. Specify beam size, type and flange width. Note: that 0 (zero) is a number, not a letter in model part numbers.

Example: LCA030DIP3RU3M2A

| Series | Power type | Capacity | Range | Body control type | Control type | Suspension | Lift | Control | Options | -E |
|------------------------------|--|--|--|--|---|---|---|--|----------|-----------|
| LC | A | 030D | I | P | 3 | RU | 3M | 2 | A | -E |
| LC = Liftchain series | A = Air H = Hydraulic (available upon request) | 030D = 3t double fall 060S = 6t single fall 060D = 6t double fall 120D = 12t double fall 180T = 18t triple fall 250Q = 25t quadruple fall | I = Industrial M = Mining (available upon request) A = fixed lug C = Swivel top hook PU = Plain rigid universal trolley (flat or tapered beam) 1500 to 6000 kg PE = Plain rigid trolley (flat beam) 12000 to 25000 kg PN = Plain rigid trolley (tapered beam) 12000 to 25000 kg GU = Geared rigid universal trolley (flat beam) 1500 to 6000 kg GE = Geared rigid trolley (flat beam) 12000 kg only GN = Geared rigid trolley (tapered beam) 12000 kg only RU⁽¹⁾ = Motorized rigid universal trolley (flat or tapered beam) 1500 to 6000 kg RE⁽¹⁾ = Motorized rigid trolley (flat beam) 12000 to 25000 kg RN⁽¹⁾ = Motorized rigid trolley (tapered beam) 12000 to 25000 kg | P = Pendent C = Pull cord | 1 = cord control 2 = 1 motor pendent 3 = 2 motor pendent | 3M = 3 m standard XX = Specify length in meters OM = No lift; for flex units ⁽²⁾ 2 = 2 m standard XX = Specify length in meters 0 = No control; for flex units ⁽²⁾ | A = Standard chain bucket B = Large chain bucket C = Extra large chain bucket K = Cast iron pendent P = Marine paint, 150 μ Q = Offshore paint, 150 μ Z = Sandblast and primer M1 = Per DIN 50049/EN10204 Para 2.2 "Typicals" ⁽³⁾ M2 = Per DIN 50049/EN10204 Para 3.1b actual per product as purchased ⁽³⁾ | A = Compliance with the European Machinery Directive (includes overhead and E-Stop as standard) | | |

Corrosion and spark-resistant packages S•COR•E⁽⁴⁾

R = Zinc plated package
T = Bronze/copper plated package

Notes:

- Add the letter "A" for articulated trolley (e.g. RUA)
- Flex units are hook mounted hoists with pendent valve chest and pendent handle (P2) or pull cord valve chest and pull cord handle kit (C1) less load chain and control lines. The load chain, control hoses or cords and related hardware are listed below. These models allow us maximum flexibility in meeting customer requirements.

Pull cord

| Part no. | Description |
|-----------------|-----------------------------|
| 75790102 | Pull cord valve chest |
| 40004-00 | Handle kit with warning tag |
| 51777 | Nylon cord |

Pendent

| Part no. | Description |
|---------------|--|
| PHS2E | 2 lever pendent with fittings |
| PHS4E | 4 lever pendent with fittings |
| 50923 | Control hose |
| 54798 | Strain relief cable 3/32" diameter |
| DCTK-1 | Thimble kit for strain relief cable with warning tag |
| 20417 | Quick exhaust valve |

| Bulk chain | |
|------------------|------------------------|
| Part no. | Description |
| HCCF005ZP | Zinc plated hand chain |

Lineal length required = lift x (number of falls) + 0.5 meters.
e.g. For 30 feet of lift on an LCA030DIP:

- 30 feet divided by 3.28 ft/meter = 9.15 meters.
- LCA030DIP is two falls of LCA1336-G8ZP chain.
- Lineal length in meters = 9.15 x (2) + 0.5 = 18.8 lineal meters or about 61.7 feet.

- M1** Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts).
M2 Material traceability certificates according to EN 10204b(Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for these parts).

- S•COR•E Option R includes the following:**

For the hoist:

- Stainless steel pins and fasteners 10 mm and smaller
- 20 μ zinc plated fasteners 11 mm and larger
- Zinc plated top and bottom hook assemblies
- Zinc plated bottom hook sprocket wheel

For the trolley:

- Stainless steel pins and fasteners 10 mm and smaller
- 20 μ zinc plated fasteners 11 mm and larger
- Solid bronze wheels
- Rubber bumpers

- S•COR•E Option T includes the following:**

For the hoist:

- Stainless steel pins and fasteners 10 mm and smaller
- 20 μ zinc plated fasteners 11 mm and larger
- Cast iron pendent
- Bronze coated central part, driving sprocket wheels, chain release arm
- Bronze coated top and bottom hook assemblies
- Bronze coated bottom hook sprocket wheel

For the trolley:

- Stainless steel pins and fasteners 10 mm and smaller
- 20 μ zinc plated fasteners 11 mm and larger
- Cast iron pendent
- Solid bronze wheels
- Rubber bumpers

Hercu-Link™ Electric Chain Hoist

5 to 50 metric ton capacity

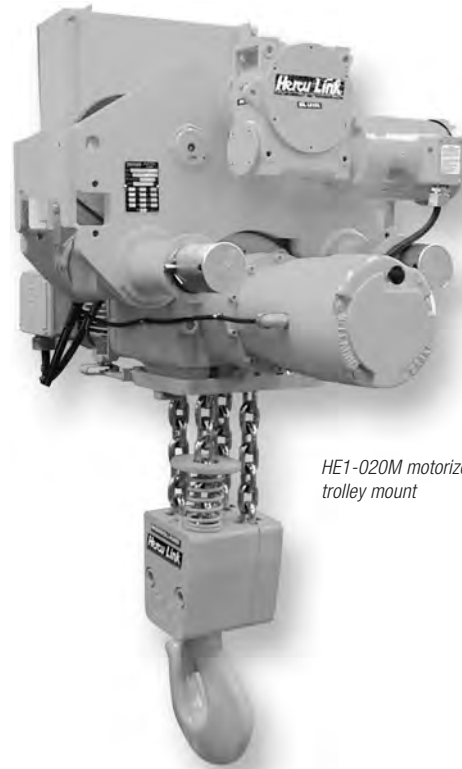


Standard features

- Space saving, low headroom, compact design; approximately one third the “envelope” size of comparable wire rope hoists
- True vertical lift
- Continuous duty hoist and trolley motor
- IEEE45 marine grade motors
- Thermal overload protection
- 110 volt control circuit with fused and grounded transformer
- Class ‘F’ insulation on hoist motor
- All popular voltages available; 460-3-60 standard
- Upper and lower limit switches
- NEMA 4 weather resistant control enclosure
- 16mm and 22mm alloy zinc plated load chain. Heat treated and calibrated, 10ft (3 m) of lift standard
- Chain guides
- Alloy steel hooks with safety latches and roller thrust bearings
- Planetary gearing
- Lifting lugs for easy installation
- Automatic multiple disc motor brake
- Manual brake release (for lowering load in event of power loss)
- Trolley rail sweeps (safety lugs)
- Trolley guide rollers are standard on Frame 2 motorized trolley models
- All non-oil bath bearings are regreasable

Options:

- Dual speed motors
- 208, 230, 380, 400, 415, 575 motor voltages
- Longer lifts
- Longer pushbutton cord
- Longer power supply cables
- Galvanized expanded metal chain containers
- Plain, geared, motorized trolley units
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Trolley bumpers and guide rollers (standard on Frame 2 models)
- Sandblast carbozinc primer
- Electronic overload protection



HE1-020M motorized trolley mount

Hercu-Link specifications

| Model no. | Capacity | | Head room | | Hoist lift speed/min | | Hoist lower speed/min | | Hoist hp | Chain falls | Trolley speed | | no. of wheels | Wheel loading per wheel | | Ship weight | | |
|------------------------------|----------|-------|-----------|------|----------------------|-----|-----------------------|-----|----------|-------------|---------------|-------|---------------|-------------------------|-------|-------------|------|------|
| | lbs | kg | in. | mm | ft | m | ft | m | | | ft/min | m/min | | hp | lbs | kg | lbs | kg |
| Frame 1 (16 mm chain) | | | | | | | | | | | | | | | | | | |
| HE1-005H | 11000 | 5000 | 34.44 | 875 | 17 | 5.2 | 19.1 | 5.8 | 7.5 | 1 | – | – | – | – | – | – | 685 | 311 |
| HE1-005M | 11000 | 5000 | 30.50 | 775 | 17 | 5.2 | 19.1 | 5.8 | 7.5 | 1 | 18 | 5.5 | 1.5 | 4 | 2968 | 1349 | 905 | 411 |
| HE1-010H | 22000 | 10000 | 41.81 | 1062 | 8.5 | 2.6 | 9.6 | 2.9 | 7.5 | 2 | – | – | – | – | – | – | 765 | 348 |
| HE1-010M | 22000 | 10000 | 36.94 | 938 | 8.5 | 2.6 | 9.6 | 2.9 | 7.5 | 2 | 18 | 5.5 | 1.5 | 4 | 5755 | 2616 | 1105 | 502 |
| HE1-015H | 33000 | 15000 | 48.13 | 1222 | 5.6 | 1.7 | 6.3 | 1.9 | 7.5 | 3 | – | – | – | – | – | – | 875 | 398 |
| HE1-015M | 33000 | 15000 | 41.63 | 1057 | 5.6 | 1.7 | 6.3 | 1.9 | 7.5 | 3 | 18 | 5.5 | 1.5 | 4 | 8558 | 3890 | 1315 | 598 |
| HE1-020H | 44000 | 20000 | 49.50 | 1257 | 4.3 | 1.3 | 4.8 | 1.5 | 7.5 | 4 | – | – | – | – | – | – | 975 | 443 |
| HE1-020M | 44000 | 20000 | 41.44 | 1053 | 4.3 | 1.3 | 4.8 | 1.5 | 7.5 | 4 | 18 | 5.5 | 1.5 | 4 | 11332 | 5151 | 1425 | 648 |
| Frame 2 (22 mm chain) | | | | | | | | | | | | | | | | | | |
| HE2-012H | 26400 | 12000 | 43.88 | 1114 | 15 | 4.6 | 16 | 4.9 | 15 | 1 | – | – | – | – | – | – | 965 | 439 |
| HE2-012M | 26400 | 12000 | 41.13 | 1045 | 15 | 4.6 | 16 | 4.9 | 15 | 1 | 18 | 5.5 | 1.5 | 4 | 7209 | 3277 | 1415 | 643 |
| HE2-025H | 55000 | 25000 | 56.50 | 1435 | 7.5 | 2.3 | 8 | 2.4 | 15 | 2 | – | – | – | – | – | – | 1235 | 561 |
| HE2-025M | 55000 | 25000 | 47.44 | 1205 | 7.5 | 2.3 | 8 | 2.4 | 15 | 2 | 18 | 5.5 | 1.5 | 8 | 14135 | 6425 | 1835 | 834 |
| HE2-037H | 81400 | 37000 | 71.88 | 1826 | 5 | 1.5 | 5.5 | 1.7 | 15 | 3 | – | – | – | – | – | – | 2230 | 1014 |
| HE2-037M | 81400 | 37000 | 54.19 | 1376 | 5 | 1.5 | 5.5 | 1.7 | 15 | 3 | 18 | 5.5 | 1.5 | 8 | 10751 | 4887 | 3700 | 1682 |
| HE2-050H | 110000 | 50000 | 80.44 | 2043 | 3.7 | 1.1 | 4.3 | 1.3 | 15 | 4 | – | – | – | – | – | – | 2995 | 1361 |
| HE2-050M | 110000 | 50000 | 58.25 | 1480 | 3.7 | 1.1 | 4.3 | 1.3 | 15 | 4 | 18 | 5.5 | 1.5 | 8 | 14304 | 6502 | 4665 | 2120 |

Hercu-Link™ Electric Chain Hoist

5 to 50 metric ton capacity



Dimensions: hook mounted hoist

| Frame 1 | A | | B | | B ¹ | | C | | F | | G | | H | |
|----------|-------|------|-------|-----|----------------|-----|-------|-----|-------|-----|--------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HE1-005H | 34.44 | 875 | 13.00 | 330 | 21.75 | 552 | 25.44 | 646 | 1.81 | 46 | 22.75 | 578 | 21.50 | 546 |
| HE1-010H | 41.81 | 1062 | 13.00 | 330 | 21.75 | 552 | 25.44 | 646 | 2.63 | 67 | 22.75 | 578 | 21.50 | 546 |
| HE1-015H | 48.13 | 1222 | 13.00 | 330 | 27.94 | 710 | 31.44 | 799 | 3.00 | 76 | 22.75 | 578 | 21.50 | 546 |
| HE1-020H | 49.50 | 1257 | 13.63 | 346 | 22.25 | 565 | 25.44 | 646 | 3.63 | 92 | 25 1/4 | 641 | 23.50 | 597 |
| | J | | K | | L | | M | | N | | P | | Y | |
| HE1-005H | 37.00 | 940 | 9.50 | 241 | 10.50 | 267 | 3.50 | 89 | 3.50 | 89 | 1.88 | 48 | 6.50 | 165 |
| HE1-010H | 45.81 | 1167 | 9.50 | 241 | 10.50 | 267 | 6.00 | 152 | 8.50 | 216 | 2.50 | 64 | 8.69 | 221 |
| HE1-015H | 53.63 | 1362 | 9.50 | 241 | 10.50 | 267 | 5.25 | 133 | 10.00 | 254 | 3.38 | 86 | 11.00 | 279 |
| HE1-020H | 55.50 | 1409 | 9.50 | 241 | 10.50 | 267 | 9.38 | 238 | 8.50 | 216 | 4.00 | 102 | 13.63 | 346 |
| Frame 2 | A | | B | | B ¹ | | C | | F | | G | | H | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HE2-012H | 43.00 | 1092 | 19.63 | 498 | 28.75 | 730 | 33.00 | 838 | 2.63 | 67 | 28.13 | 714 | 21.00 | 533 |
| HE2-025H | 58.63 | 1489 | 19.63 | 498 | 28.75 | 730 | 33.00 | 838 | 3.63 | 92 | 28.13 | 714 | 21.00 | 533 |
| HE2-037H | 71.88 | 1826 | 20.75 | 527 | 28.75 | 730 | 33.00 | 838 | 5.06 | 129 | 31.13 | 791 | 24.00 | 610 |
| HE2-050H | 80.44 | 2043 | 20.75 | 527 | 28.75 | 730 | 33.00 | 838 | 6.69 | 170 | 31.13 | 791 | 24.00 | 610 |
| | J | | K | | L | | M | | N | | P | | Y | |
| HE2-012H | 48.13 | 1222 | 9.69 | 246 | 10.88 | 276 | 4.50 | 114 | 4.50 | 114 | 2.25 | 57 | 8.69 | 221 |
| HE2-025H | 66.00 | 1676 | 9.69 | 246 | 10.88 | 276 | 6.88 | 175 | 11.13 | 286 | 3.25 | 83 | 13.63 | 346 |
| HE2-037H | 82.00 | 2083 | 9.69 | 246 | 10.88 | 276 | 11.13 | 283 | 11.13 | 286 | 4.25 | 108 | 15.44 | 392 |
| HE2-050H | 93.81 | 2383 | 9.69 | 246 | 10.88 | 276 | 12.63 | 321 | 11.13 | 286 | 6.50 | 165 | 20.63 | 524 |

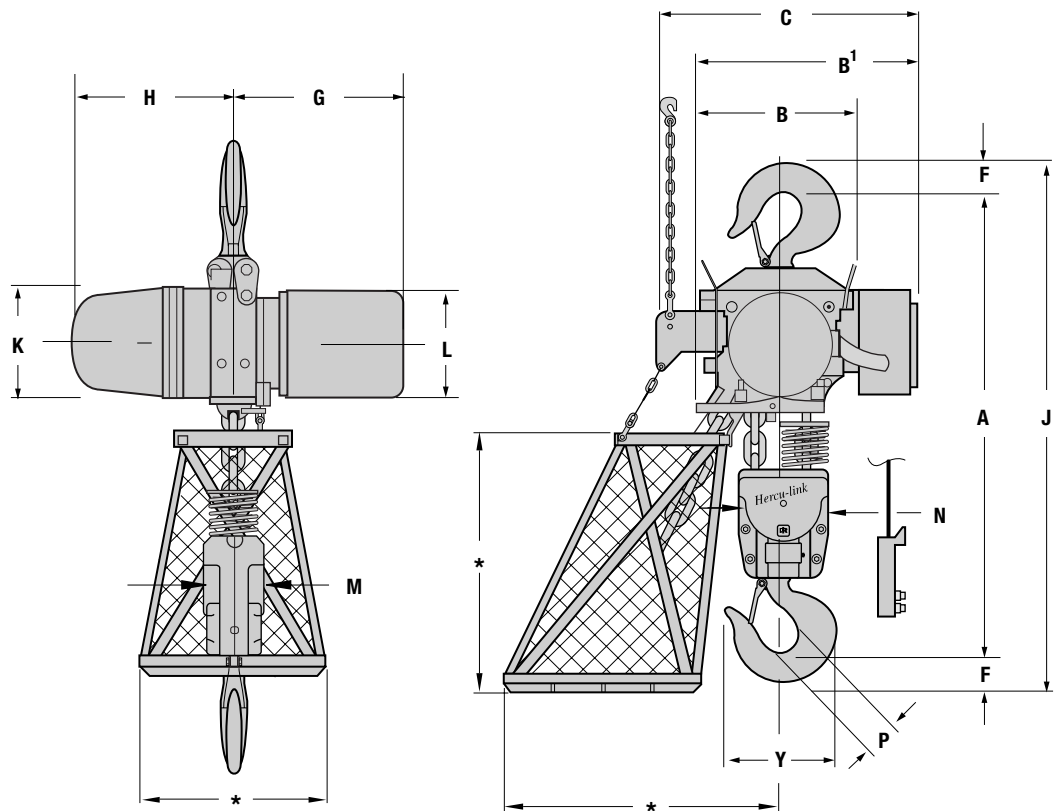
Frame 1 uses 16 mm chain; frame 2 uses 22 mm chain.

Chain bucket includes trailing trolley on HE1-015M and any other 4 wheel trolley model with 35 feet (10.7 m) of lift or more.

Hook mounted hoist

Frame 1: HE1-005H, HE1-010H,
HE1-015H, HE1-020H

Frame 2: HE2-012H, HE2-025H,
HE2-037H, HE2-050H



Dimensions are subject to change. Contact factory for certified prints

Hercu-Link™ Electric Chain Hoist

5 to 50 metric ton capacity



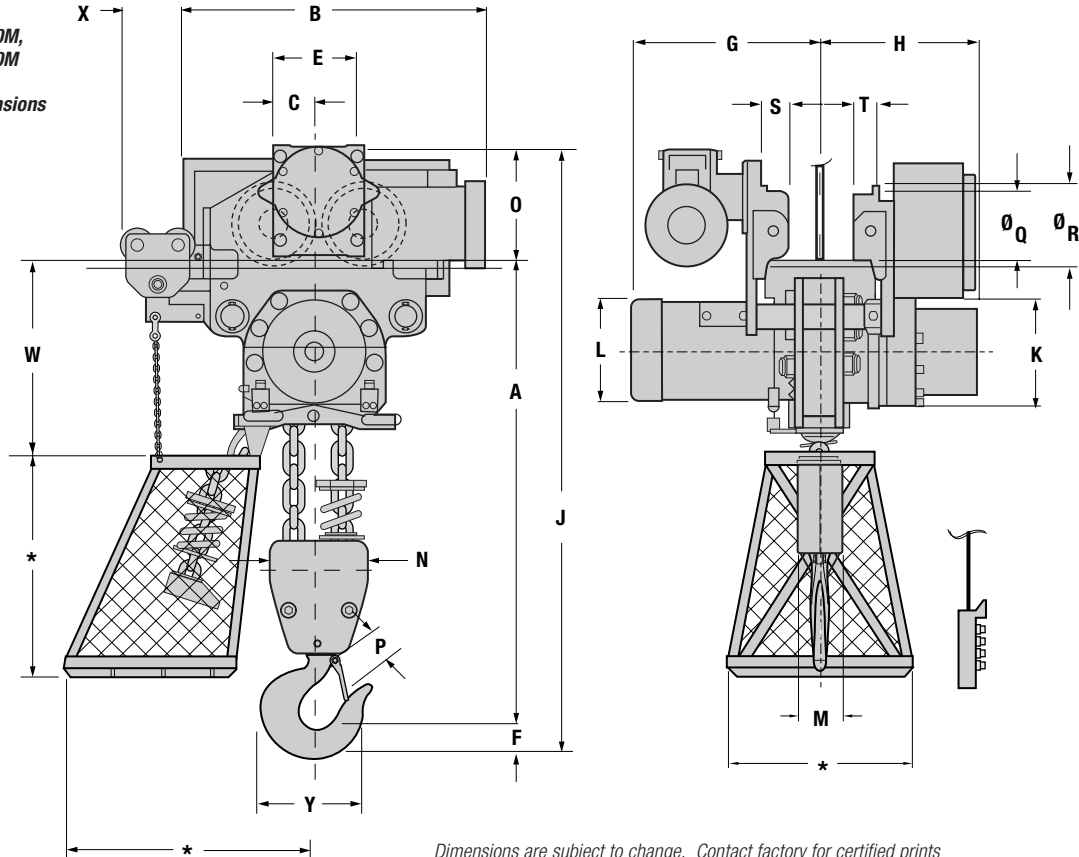
Dimensions: trolley mounted hoist; frame 1 with 16 mm chain

| Frame 1 | A | | B | | C | | D | | E | | F | | G | | H | |
|----------|-------|------|-------|-----|--------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HE1-005M | 30.50 | 775 | 27.31 | 694 | 3.88 | 98 | — | — | 7.75 | 197 | 1.81 | 46 | 22.75 | 578 | 21.50 | 546 |
| HE1-010M | 36.94 | 938 | 27.31 | 694 | 3.88 | 98 | — | — | 7.75 | 197 | 2.59 | 66 | 22.75 | 578 | 21.50 | 546 |
| HE1-015M | 41.63 | 1051 | 30.56 | 776 | 4.50 | 114 | — | — | 9.00 | 229 | 3.00 | 76 | 22.75 | 578 | 21.50 | 546 |
| HE1-020M | 41.44 | 1053 | 32.00 | 813 | 5.88 | 149 | — | — | 11.75 | 298 | 3.63 | 92 | 25.25 | 641 | 23.50 | 597 |
| | J | | K | | L | | M | | N | | O | | P | | Q | |
| HE1-005M | 41.44 | 1064 | 9.50 | 241 | 10.50 | 267 | 3.50 | 89 | 3.50 | 89 | 10.06 | 256 | 1.88 | 48 | 6.13 | 156 |
| HE1-010M | 49.63 | 1260 | 9.50 | 241 | 10.50 | 267 | 6.00 | 152 | 8.50 | 216 | 10.06 | 256 | 2.50 | 64 | 6.13 | 156 |
| HE1-015M | 56.63 | 1387 | 9.50 | 241 | 10.50 | 267 | 5.25 | 133 | 10.00 | 254 | 10.75 | 273 | 3.38 | 86 | 6.88 | 175 |
| HE1-020M | 56.06 | 1424 | 9.50 | 241 | 10.50 | 267 | 9.44 | 240 | 8.50 | 216 | 12.19 | 310 | 4.00 | 102 | 9.00 | 229 |
| | R | | S | | T | | W | | X | | Y | | Z | | | |
| HE1-005M | 7.25 | 184 | 2.63 | 67 | 1.94 | 49 | 19.81 | 503 | 5.00 | 127 | 6.50 | 165 | — | — | | |
| HE1-010M | 7.25 | 184 | 2.63 | 67 | 1.94 | 49 | 19.81 | 503 | 5.00 | 127 | 8.69 | 221 | — | — | | |
| HE1-015M | 8.63 | 219 | 3.25 | 83 | 2.56 | 65 | 20.00 | 508 | 8.88 | 225 | 11.00 | 279 | — | — | | |
| HE1-020M | 11.38 | 289 | 3.06 | 78 | 2 3/16 | 56 | 19.50 | 495 | 6.00 | 152 | 13.63 | 346 | — | — | | |

Important:
It is the user's responsibility to specify proper beam size for the maximum wheel loading. Consult w/a qualified engineer.

Chain bucket includes trailing trolley on HE1-015M and any other 4 wheel trolley model with 35 feet (10.7 m) of lift or more.

4-wheel motorized trolley
Frame 1: HE1-005M, HE1-010M, HE1-015M, HE1-020M
Frame 2: HE2-012M
 (see Frame 2 dimensions on following page)



Dimensions are subject to change. Contact factory for certified prints

Hercu-Link™ Electric Chain Hoist

5 to 50 metric ton capacity

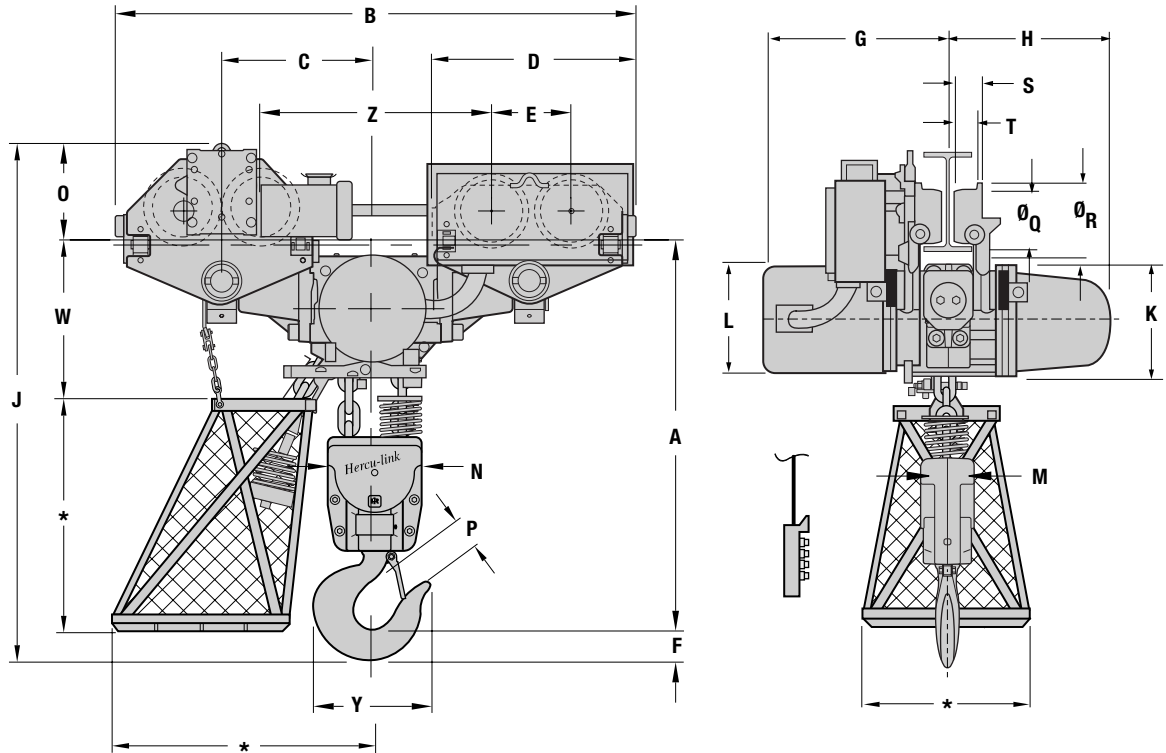


Dimensions: trolley mounted hoist with 22 mm chain

| Frame 2 | A | | B | | C | | D | | E | | F | | G | | H | |
|----------|-------|------|-------|------|-------|-----|--------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| HE2-012M | 41.13 | 1045 | 32.81 | 833 | 4.50 | 114 | – | – | 9.00 | 229 | 2.56 | 65 | 28.13 | 714 | 21.00 | 533 |
| HE2-025M | 47.44 | 1205 | 62.13 | 1578 | 19.00 | 483 | 24.50 | 622 | 9.00 | 229 | 3.63 | 92 | 28.13 | 714 | 21.00 | 533 |
| HE2-037M | 54.19 | 1376 | 64.88 | 1648 | 24.00 | 610 | 26.50 | 673 | 11.75 | 298 | 5.06 | 129 | 31.13 | 791 | 24.00 | 610 |
| HE2-050M | 58.25 | 1480 | 64.88 | 1648 | 24.00 | 610 | 26.50 | 673 | 11.75 | 298 | 6.69 | 170 | 31.13 | 791 | 24.00 | 610 |
| | J | | K | | L | | M | | N | | O | | P | | Q | |
| HE2-012M | 54.50 | 1384 | 9.69 | 246 | 10.88 | 276 | 4.50 | 114 | 4.50 | 114 | 10.75 | 273 | 2.25 | 57 | 6.88 | 175 |
| HE2-025M | 62.81 | 1595 | 9.69 | 246 | 10.88 | 276 | 6.88 | 175 | 11.25 | 286 | 11.56 | 294 | 4.00 | 102 | 6.88 | 175 |
| HE2-037M | 72.25 | 1835 | 9.69 | 246 | 10.88 | 276 | 11 1/8 | 283 | 11.25 | 286 | 13.00 | 330 | 4.75 | 121 | 9.00 | 229 |
| HE2-050M | 77.94 | 1980 | 9.69 | 246 | 10.88 | 276 | 12.63 | 321 | 11.25 | 286 | 13.00 | 330 | 6.50 | 165 | 9.00 | 229 |
| | R | | S | | T | | W | | X | | Y | | Z | | | |
| HE2-012M | 8.63 | 219 | 3.25 | 83 | 2.56 | 65 | 24.44 | 621 | 8.88 | 225 | 8.69 | 221 | – | – | | |
| HE2-025M | 8.63 | 219 | 3.19 | 81 | 2.56 | 65 | 18.50 | 470 | – | – | 13.63 | 346 | 21.50 | 546 | | |
| HE2-037M | 11.38 | 289 | 3.19 | 81 | 2.25 | 57 | 19.19 | 487 | – | – | 15.44 | 392 | 24.50 | 622 | | |
| HE2-050M | 11.38 | 289 | 3.19 | 81 | 2.25 | 57 | 19.19 | 487 | – | – | 20.63 | 524 | 24.50 | 622 | | |

Important:
It is the user's responsibility to specify proper beam size for the maximum wheel loading. Consult w/a qualified engineer.

8-wheel motorized trolley
Frame 2:
(HE2-025M,
HE2-037M,
HE2-050M)



Dimensions are subject to change. Contact factory for certified prints

Hercu-Link™ Electric Chain Hoist

5 to 50 metric ton capacity



How to Order:

Specify the complete model as shown. Specify beam size, type and flange width. **Example: HE1-005MA3-30-27-4P**

| Series | Frame size - Capacity | Suspension | Trolley flange adj. | Control | Lift | Control drop | Voltage | Options | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------|------------|---------------------|----------|---------------|--------------|----------|----------|------|----------|-----|------|----------|-----|------|----------|-------|--|--|----------|------------|----------|--|----------|----------|--|------------|----------|--|----------|-----------|--|--|--|--|
| HE | 1 - 005 | M | A | 3 | - 30 - | 27 | 4 | P | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>H = Hercu-Link series</p> <p>A = Electrically powered</p> <p>Note: See Air Hercu-Link section for air and hydraulic models.</p> <table border="0"> <tr> <td></td> <td>tons</td> <td>lbs.</td> </tr> <tr> <td>1 005</td> <td>= 5</td> <td>= 11,000</td> </tr> <tr> <td>010</td> <td>= 10</td> <td>= 22,000</td> </tr> <tr> <td>015</td> <td>= 15</td> <td>= 33,000</td> </tr> <tr> <td>020</td> <td>= 20</td> <td>= 44,000</td> </tr> <tr> <td colspan="3"><hr/></td> </tr> <tr> <td>2</td> <td>012 = 12.5</td> <td>= 27,500</td> </tr> <tr> <td></td> <td>025 = 25</td> <td>= 55,000</td> </tr> <tr> <td></td> <td>037 = 37.5</td> <td>= 82,500</td> </tr> <tr> <td></td> <td>050 = 50</td> <td>= 110,000</td> </tr> </table> | | | tons | lbs. | 1 005 | = 5 | = 11,000 | 010 | = 10 | = 22,000 | 015 | = 15 | = 33,000 | 020 | = 20 | = 44,000 | <hr/> | | | 2 | 012 = 12.5 | = 27,500 | | 025 = 25 | = 55,000 | | 037 = 37.5 | = 82,500 | | 050 = 50 | = 110,000 | <p>H = Top hook mount</p> <p>C = Clevis mount⁽¹⁾</p> <p>D = Deck mount⁽¹⁾</p> <p>P = Plain trolley</p> <p>G = Geared trolley</p> <p>M = Electric motor trolley</p> <p>A = Standard</p> <p>B = 2" (50.8 mm) extension</p> <p>C = 4" (101.6 mm) extension</p> <p>D = 6" (152.4 mm) extension</p> <p>M = No trolley; used with hook, clevis and deck mount</p> | <p>XX = Length of lift</p> <p>XX = Control drop pendent (6 ft/2m standard)</p> | <p>1 = 208-3-60</p> <p>2 = 230-3-60</p> <p>3 = 380-3-50</p> <p>4 = 460-3-60</p> <p>5 = 575-3-60</p> <p>6 = 415-3-50</p> <p>7 = 400-3-50</p> | <p>Hoist</p> <p>D = Dual speed</p> <p>L = Electronic overload protection</p> <p>P = Marine 812 finish</p> <p>Q = Special paint; specify</p> <p>T = Galvanized chain container</p> <p>Y = Hull bumpers</p> <p>Z = Sandblast & carbozinc primer</p> <p>Trolley</p> <p>B = Trolley bumpers⁽²⁾</p> <p>G = Trolley guide rollers⁽²⁾</p> <p>K = Clevis in lieu of bottom hook⁽¹⁾</p> <p>R = Copper plated S•COR•E pkg (see description below)</p> <p>S = Solid bronze S•COR•E pkg (see description below)</p> |
| | tons | lbs. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 005 | = 5 | = 11,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 010 | = 10 | = 22,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 015 | = 15 | = 33,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 020 | = 20 | = 44,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <hr/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 012 = 12.5 | = 27,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 025 = 25 | = 55,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 037 = 37.5 | = 82,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 050 = 50 | = 110,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(1) P.O.A. Contact Technical Sales.
(2) Standard on Frame 2 models

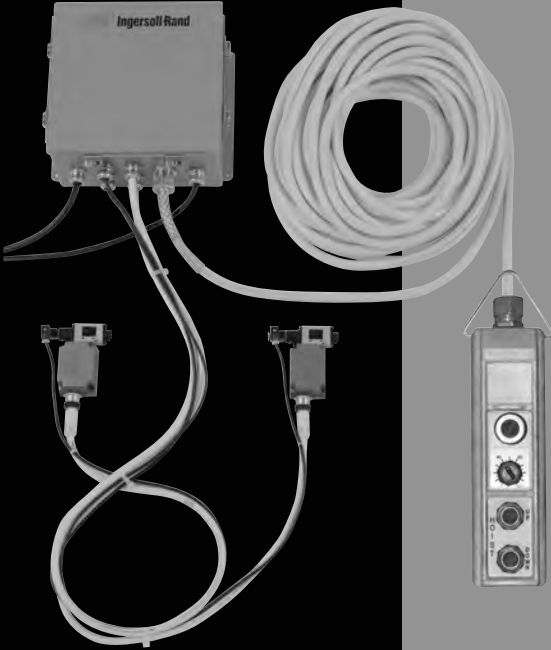
■ S•COR•E (Option codes R and S)

- R** = The product will be equipped with zinc plated load chain, copper plated load hook(s) and trolley wheels. Zinc plated hand chain if applicable.
- S** = Up to 20 ton units will be equipped with zinc plated load chain, solid bronze load hook(s) and trolley wheels. Zinc plated hand chain if applicable.

Trolleys and Accessories

Over 70 years of experience in the Material Handling Industry is reflected in IR's plain, brake and piston motor driven trolleys.

Whether performing routine maintenance tasks or a complete bridge retrofit, IR trolleys and our new Man Rider™ rated trolleys keep your project rolling.



Trolleys

Man Rider™, Plain and Brake

These 3 and 6 metric ton trolleys are designed specifically for the bridge retrofit and new construction market. These rugged and durable manual trolleys are offered with both utility and Man Rider ratings to fit a variety of bridge and scaffolding applications.

■ **Standard features**

- Incredibly tough, long-lasting cast iron wheels are through hardened for wear resistance. Tapered tread wheels are standard.
- Rail sweeps (safety lugs) standard.
- Axles and bearings have grease fittings for maximum life and corrosion resistance.
- Air activated “parking brake” on BT/M2-3 and 6 models.



BTP Trolley



BTM Trolley

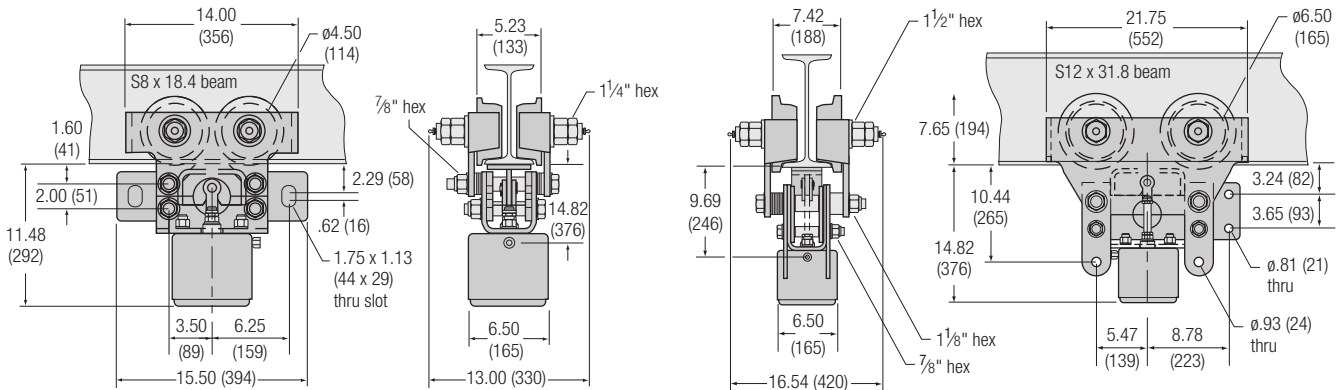
■ **Options**

- Flat tread wheels
- Special paint coatings
- Suspension shafts to fit a variety of beam types and widths

Specifications: BT/M2-3, BT/M2-6 and BTP-MR3/6 series

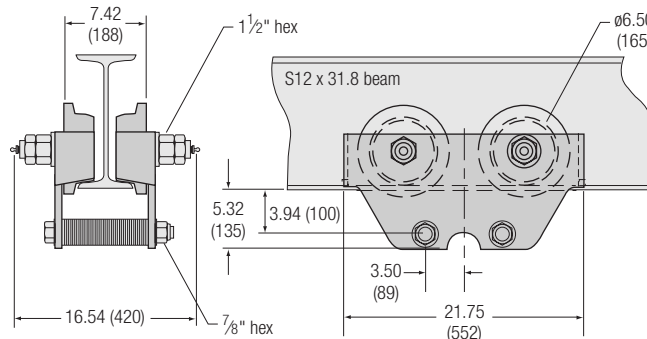
| Base model | Utility load lbs (kg) | Design factor at utility load | Man-Rider load lbs (kg) | Design factor at M-R load | Flange adjustment in. (mm) | Inlet hose in. | Operating pressure psig (bar) | Parking brake (PB) | | min. hold-off pressure | Min. beam curve radius in. (mm) | |
|------------|-----------------------|-------------------------------|-------------------------|---------------------------|----------------------------|----------------|-------------------------------|------------------------|--------------|------------------------|---------------------------------|-----------|
| | | | | | | | | Type | Material | | | |
| BT/M2-3 | 6600 (3000) | 5:1 | 3300 (1500) | 10:1 | 3.80 – 4.20 (97–107) | 1/4 | 85–125 (6–8.75) | Air release/spring set | non-asbestos | 600 lbs 273 kg | 70 psig (4.9 bar) | 48 (1219) |
| BT/M2-6 | 13200 (6000) | 5:1 | 6600 (3000) | 10:1 | 4.00–5.00 (102–127) | 1/4 | 85–125 (6–8.75) | Air release/spring set | non-asbestos | 600 lbs 273 kg | 70 psig (4.9 bar) | 60 (1524) |
| BTP-MR3/6 | 13200 (6000) | 5:1 | 6600 (3000) | 10:1 | 4.00–5.00 (102–127) | na | na | na | na | na | na | 60 (1524) |

Dimensions



BT/M2-3

BT/M2-6



BTP/M3-6

Dimensions are subject to change. Contact factory for certified prints

Trolleys

Man Rider™, Piston Motor Driven and 4-wheel drive

■ ATC and ATE features and benefits:

- Reintroduced by popular demand
- **Available with Man Rider™ rating** for scaffolds per ANSI/ASME B30.23.
- Reversible radial piston motor allows unmatched speed and load control.
- Drop forged connecting rods and crank pins add to the legendary IR durability.
- 4 wheel drive provides maximum traction and pulling power.
- Pendant control valve chest with proportional flow "live air" for precision control.
- Incredibly tough, long-lasting cast iron or steel wheels are through hardened. Tapered or flat tread available.
- Ductile iron side plates
- Rail sweeps (safety lugs) standard.
- Axles and bearings have grease fittings for maximum life and corrosion protection.

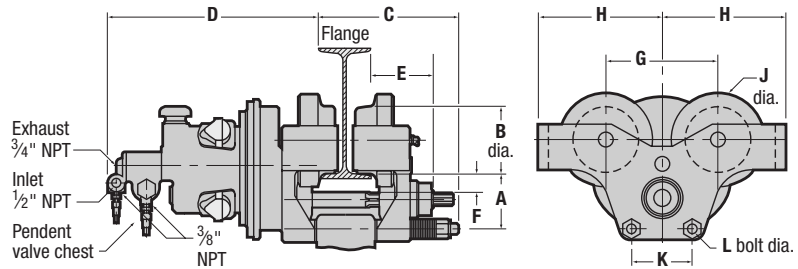
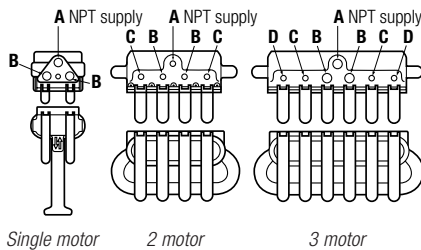


Specifications: ATC and ATE series @ 90 psi (6.3 bar)

| Base model | Capacity metric tons | Control type | Tractive force lbs (kg) | Trolley speed @ loads in metric tons fpm (m/min) | | | | | | Min. turn radius ft (mm) | Avg air consump cfm (m3/min) | Ship weight lbs (kg) | |
|------------|------------------------------|--------------|-------------------------|--|----------|----------|----------|----------|---------|--------------------------|------------------------------|----------------------|-----------|
| | | | | 1/4 | 1/2 | 1 | 2 | 3 | 5 | | | | 6 |
| ATC | .25 – 3 | Pendent | 450 (205) | 180 (55) | 180 (55) | 180 (55) | 160 (49) | 140 (43) | – | – | 6 (1829) | 63 (1.8) | 245 (111) |
| ATC-MR15/3 | 1.5 Man Rider 3.0 Utility | Pendent | 450 (205) | 180 (55) | 180 (55) | 180 (55) | 160 (49) | 140 (43) | – | – | 6 (1829) | 63 (1.8) | 245 (111) |
| ATE | 4.5 – 6 | Pendent | 600 (273) | – | – | 139 (42) | 123 (38) | 107 (33) | 75 (23) | 60 (18) | 6 (1829) | 63 (1.8) | 254 (115) |
| ATE-MR3/6 | 3 Man Rider 6 Utility | Pendent | 600 (273) | – | – | 139 (42) | 123 (38) | 107 (33) | 75 (23) | 60 (18) | 6 (1829) | 63 (1.8) | 254 (115) |

Dimensions

| Hoist capacity metric tons | Fits beam flange width in. (mm) | A in. (mm) | B in. (mm) | C in. (mm) | D in. (mm) | E in. (mm) | F in. (mm) | G in. (mm) | H in. (mm) | J in. (mm) | K in. (mm) | L in. (mm) |
|----------------------------|---------------------------------|------------|------------|-------------|-------------|------------|------------|------------|-------------|------------|------------|------------|
| .25 – 3 | 3.25 – 7.25 (83 – 184) | 4.56 (116) | 4.75 (121) | 10.25 (260) | 16.13 (410) | 4.88 (124) | 1.63 (41) | 8.5 (216) | 9.06 (230) | 7 (178) | 4.75 (121) | 0.88 (22) |
| 4.5 – 6 | 3.25 – 7.25 (83 – 184) | 4.63 (111) | 6.25 (159) | 13 (330) | 16.38 (416) | 5.19 (132) | 1.5 (38) | 9 (229) | 10.13 (257) | 8.13 (206) | 7 (178) | 1.13 (29) |



Pendent handles

| Type | Part no. | Dimensions (in.) (NPT air inlet) | | | |
|--------------|--------------|----------------------------------|-----|-----|-----|
| | | A | B | C | D |
| Single motor | MR-269C | 3/8 | 3/8 | - | - |
| Two motor | MR-A122C | 3/8 | 3/8 | - | - |
| | C6H20A-A122B | 1/2 | 1/2 | 3/8 | - |
| Three motor | MR-A132C | 3/8 | 3/8 | 3/8 | 3/8 |
| | C6H20A-A132B | 1/2 | 1/2 | 3/8 | 3/8 |

Choose the 2 or 3 motor pendent handle based on the air consumption requirements of the machine(s) being run.

Approximate air flow

| NPT air inlet | scfm | m³/min |
|---------------|------|--------|
| 3/8 inch | 100 | 2.83 |
| 1/2 inch | 200 | 5.66 |

How to Order:

Dimensions are subject to change. Contact factory for certified prints

Specify trolley by complete model number as illustrated. This model includes: Base model, Wheel type, Manrider rating, Control, Control length, and Options. **Example:** ATC-MR15/3-210B = 1/4 - 3 ton trolley with tapered wheels, 3 ton utility and 1.5 ton Manrider rating, one motor pendent, 10 ft of control length and bumpers.

| Base model | Wheel | Manrider | Controls | Control length | Options | |
|-------------------------------|-------|---|--|---|--|---|
| ATC | - | MR15/3 | - | 2 | 10 | B |
| ATC = 1/4 - 3 ton | | Utility model std. (no option code req'd). Insert model code below for Man Rider option | 0 = No pendent 2 = MR-K269C (std 1 mtr) 3 = C6H20A-A169B (1 mtr) 4 = MR-A122C (2 mtr) 5 = C6H20A-A122B (2 mtr) 6 = MR-A132C (3 mtr) 7 = C6H20A-A132B (3 mtr) | XX = Control drop; specify length in feet. 7 feet (2.1 m) is std. | B = Bumpers H = Hook-on adapter Q = Special paint; please specify P = Marine 812 finish Z = Sandblast and carbazinc primer | |
| ATE = 4 1/2 - 6 ton | | MR15/3: Utility rating, 3 ton; Man Rider, 1.5 ton MR3/6: Utility rating, 6 ton; Man Rider, 3 ton | | | | |
| - = Tapered T = Flat tread | | | | | | |

NEW

Accessories Winch Construction Cages

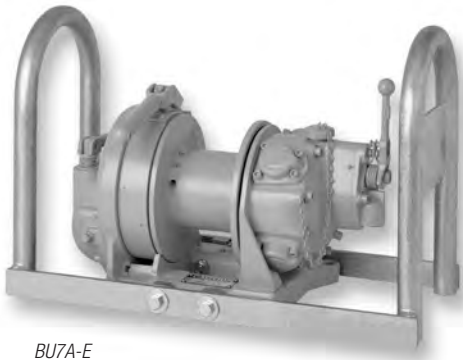
IR's construction cages make using, moving, storing, and protecting IR air winches easier than ever. Designed to meet ANSI/ASME 5:1 structural design codes for lifting, they are a welcome relief from the liability risk of homemade units.

■ **Construction cages are:**

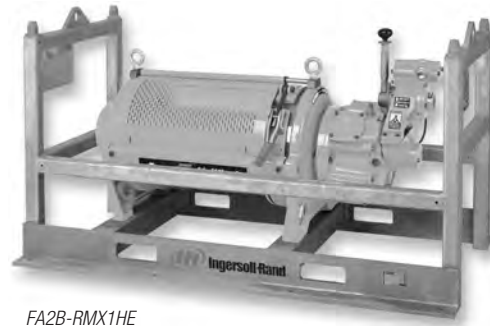
- Made by certified welders from either 2 ½ by ¼ or 3 by ⅜ inch steel bar for maximum protection.
- Their own perfect shipping containers. No wooden skids or pallets required.
- Designed with generously sized cutouts in the base for easy fork lift access.
- Standard with welded pins in the uprights so they can be stacked up to three high, saving valuable floor or yard space.
- Mounted on a steel base that allows easy bolting or welding to the deck.
- Equipped with lifting eyes to allow a balanced two point pick from overhead. The lifting eyes accept large hooks and are designed to handle the cage and the winch with a full drum of wire rope.
- Wide open in the front for cable take off from the winch at an angle.
- Hot dip galvanized for maximum protection from corrosion.

How to Order:

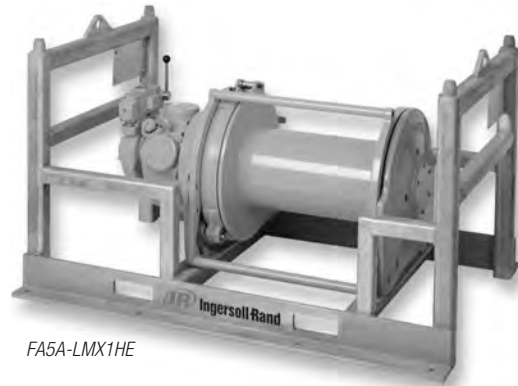
Examples: order **BU7AE** or **FA5A-LMX1E** for a winch in the cage, or order **CC-BU7A** or **CC-FA5A-LMX1** for the cage only. Custom inquiries welcome. Please send a dimensional drawing of the winch to our engineering department.



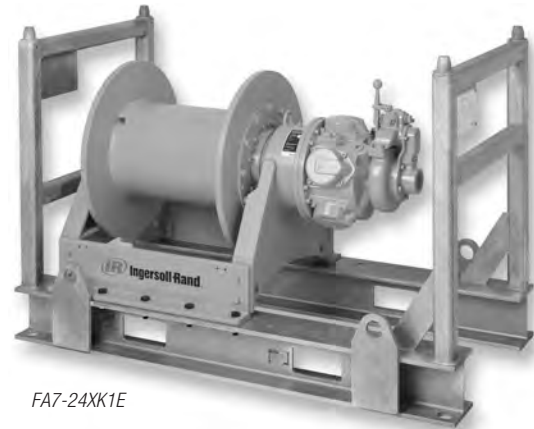
BU7A-E



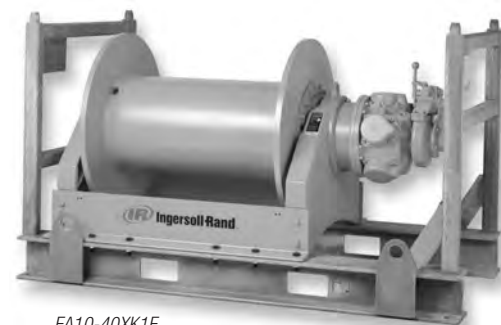
FA2B-RMX1HE



FA5A-LMX1HE



FA7-24XK1E



FA10-40XK1E

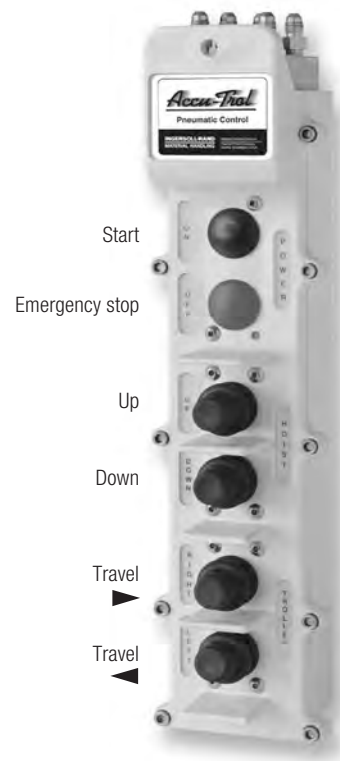
Setting new standards in pneumatic control systems.

■ **Standard features:**

- Fully enclosed impact resistant frame
- Watertight enclosure with corrosion proof features suitable for offshore, petrochemical and other severe environments
- No working parts exposed to the atmosphere
- Integral dump valves bleed excess air to eliminate “control lag”
- Color coded air hose for functional identification
- Pinpoint spotting for exceptional load control
- Readily adaptable for IR Hercu-Links and Force-5 air winches
- May be installed on any pilot air operated crane control system
- Safety guards around push buttons help eliminate accidental control actuation
- Up to three functions (six motions)

■ **Options**

- Longer lengths of control hose in 10 foot (3 m) sections
- Two, four and six button models
- Additional dump valves
- Emergency stop/start control



A2-4Y Accu-Trol, 4 button with ON-OFF

Specifications

| Model | Configuration | Pressure range psi (bar) | Port dia. NPT |
|-------|------------------------|--------------------------|-----------------|
| A1-4N | 2 button only | 50 – 125 (3.5 – 8.75) | 1/8 inch (3 mm) |
| A2-4N | 4 button only | 50 – 125 (3.5 – 8.75) | 1/8 inch (3 mm) |
| A2-4Y | 4 button with ON - OFF | 50 – 125 (3.5 – 8.75) | 1/8 inch (3 mm) |
| A3-6N | 6 button only | 50 – 125 (3.5 – 8.75) | 1/8 inch (3 mm) |
| A3-6Y | 6 button with ON - OFF | 50 – 125 (3.5 – 8.75) | 1/8 inch (3 mm) |

How to Order:

Accu-Trol model code: Accu-Trol (**A**) with three (**3**) functions, six (**6**) buttons, emergency shut-off and 30 feet of pendent hose. **Example: A3-6Y30**

| Accu-Trol hose manifold | Pushbutton kits | - | Common parts | On/off emergency cut-off switch | Hose kit (length of pendent drop) ¹ |
|-------------------------|--|----------|--|--|---|
| A | 3 | - | 6 | Y | 30 |
| A = Accu-Trol | 1 = 1 kit (hoist) 2 = 2 kits (hoist and trolley) 3 = 3 kits (hoist, trolley and bridge) | - | 4 = 2 or 4 button pendent box 6 = 6 button pendent box | N = No, not included Y = Yes, included | 0 = 0 (use to specify pendent handle only; e.g. A1-4N0) 10 = 10 feet/3 meters 20 = 20 feet/6 meters 30 = 30 feet/9 meters 40 = 40 feet/12 meters 50 = 50 feet/15.25 meters xx = Specify length |

Hose bundle assembly with strain relief

(Used on series: Palair Plus, Palair CP, Accu-Trol, FA, Liftstar, Hercu-Link, ULA)

| Length | | without Emergency Stop | | | with Emergency Stop | | |
|--------|-------|------------------------|-------------------|-------------------|---------------------|-------------------|-------------------|
| ft | m | 2 button Part no. | 4 button Part no. | 6 button Part no. | 2 button Part no. | 4 button Part no. | 6 button Part no. |
| 10 | 3.0 | 21653-15 | 21654-15 | 21655-15 | 21656-15 | 21657-15 | 21658-15 |
| 15 | 4.5 | 21653-15 | 21654-15 | 21655-15 | 21656-15 | 21657-15 | 21658-15 |
| 20 | 6.0 | 21653-20 | 21654-20 | 21655-20 | 21656-20 | 21657-20 | 21658-20 |
| 25 | 7.6 | 21653-25 | 21654-25 | 21655-25 | 21656-25 | 21657-25 | 21658-25 |
| 30 | 9.0 | 21653-30 | 21654-30 | 21655-30 | 21656-30 | 21657-30 | 21658-30 |
| 35 | 10.7 | 21653-35 | 21654-35 | 21655-35 | 21656-35 | 21657-35 | 21658-35 |
| 40 | 12.0 | 21653-40 | 21654-40 | 21655-40 | 21656-40 | 21657-40 | 21658-40 |
| 45 | 13.7 | 21653-45 | 21654-45 | 21655-45 | 21656-45 | 21657-45 | 21658-45 |
| 50 | 15.25 | 21653-50 | 21654-50 | 21655-50 | 21656-50 | 21657-50 | 21658-50 |

1. 1/4 inch (6 mm) hose with working pressure of 250 psi (17.5 bar)
2. Dump valves included on lengths of 10 feet (3 meters) and longer to provide quick exhaust and improve control response.
3. For hose bundle lengths over 50 feet (15.25 meters) contact Technical Support for control acceptability.

Accessories

Electric-Over-Air Pendant Control System

This updated remote control allows unlimited distance between the operator and winch or hoist without the excessive pressure drops, quick exhaust valves and resultant delays found in air control lines. On pendant controls, dialing-in an electrical setting determines the speed. Push buttons provide pay-in or pay-out. For variable speed control, the control buttons are depressed and the dial-in knob provides proportional control. The joystick lever control provides traditional winch style variable speed in a hand held or wall mounted control box.

■ Standard Features

- Portable, easy to hold control pendant
- NEMA 4 control box and pendant
- Holding down the control button and turning the Dial-In control provides variable speed
- Automatic return-to-center when joystick is released
- Emergency stop button on control enclosure
- Unlimited control length
- Requires pilot control valve chest for field retrofit
- Adaptable to most winch models and Hercu-Link hoists

■ Product availability

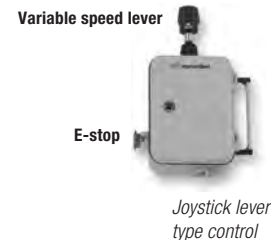
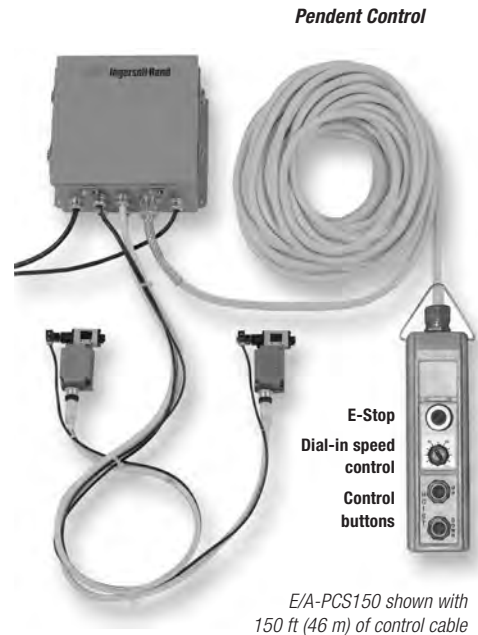
The Electric Over Air remote control system is available for all Hercu-Link air hoists and Force 5 air winches. Contact Technical Sales for information regarding suitability with other air powered products or for spark and corrosion resistant or explosion proof applications. The overspeed indicator is currently available as an option only on FA2MRA, FA2.5MRA and FA5MRA.

How to Order

To order with a complete unit, use appropriate control option in that unit's model driver, and specify control type (pendent **P** or lever **L**).

To order separately, specify complete model number as shown. This model code includes: Series, Control type, Control length, and Options. **Example: E/A-PCS20L**

| Series | Control type | Control length | Options |
|--------------------------------|--|--|--------------------------------|
| E/A | PCS | 20 | L |
| E/A = Electric-Over-Air | LCS = Lever control PCS = Pendant control | 20 = 20 feet standard XX = Specify length in feet | L = Overspeed indicator |



Accessories
Air line accessories

Air line accessories

| Model | Air inlet size | FRL size | Filter | Regulator | Lubricator | FRL combo | Liquidator | Strainer | Muffler / NPT size ⁽¹⁾ |
|------------------------------|----------------|----------|----------------|----------------|----------------|------------|-------------|------------|------------------------------------|
| BU7A | 0.5 NPT | 0.75 NPT | F30-06-000 | R28-06-F0G0-28 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | 52104 / .75 |
| FA150KGMR | 0.5 NPT | 0.75 NPT | F30-06-000 | R28-06-F0G0-28 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | 52104 / .75 |
| EU/EUL | 0.75 NPT | 1.0 NPT | F30-08-000 | R38-08-F0G0-28 | L30-08-000 | C31-08-G00 | 8848-W1-150 | HU-A267AT | 50592 / 1.0 |
| FA2 ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | HU-A267AT | 52465 / 1.25 |
| FA2B ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | 50592 / 1.0 |
| HU40A | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | 50592 / 1.0 |
| FA2.5 ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | 50594 / 2.0 |
| FA2.5A ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | – | 50594 / 2.0 |
| FA5 ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | 50594 / 2.0 |
| FA5A ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | – | 50594 / 2.0 |
| FA7 ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | 50594 / 2.0 |
| FA10 ⁽²⁾ | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | 50594 / 2.0 |
| LS150R | 0.5 BSP | 0.75 NPT | F30-06-000 | R30-06-000 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | Built-in, internal muffling system |
| LS300R | 0.5 BSP | 0.75 NPT | F30-06-000 | R30-06-000 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | |
| LS600R | 0.5 BSP | 0.75 NPT | F30-06-000 | R30-06-000 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | |
| LS1500R | 0.75 BSP | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | EU-A267 | |
| LS2000R | 1.25 BSP | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | |
| LS5000R | 1.25 BSP | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | |
| PS1000R | 0.5 BSP | 0.75 NPT | F30-06-000 | R30-06-000 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | |
| PS2400R | 0.75 BSP | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | EU-A267 | |
| PS4000R | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | |
| PS10000R | 1.25 NPT | 1.5 NPT | F35-0B-C28 | R40-0B-G00 | L40-0B-G00 | – | 8834-W1-000 | K4U-A267AT | |
| HA1 ⁽²⁾ | 0.75 NPT | 0.75 NPT | F28-06-SL00-28 | R28-06-F0G0-28 | L28-06-LK00-28 | – | 8846-W1-090 | EU-A267 | 52104 / .75 |
| HA2 ⁽²⁾ | 1.0 NPT | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | HU-A267AT | 50592 / 1.25 |
| LCA015S | 0.5 BSP | 0.75 NPT | F30-06-000 | R30-06-000 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | Built-in, internal muffling system |
| LCA030S | 0.5 BSP | 0.75 NPT | F30-06-000 | R30-06-000 | L30-06-000 | C31-06-G00 | 8846-W1-090 | EU-A267 | |
| LCA060S/D | 0.75 BSP | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | EU-A267 | |
| LCA120D | 0.75 BSP | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | EU-A267 | |
| LCA180T | 0.75 BSP | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | EU-A267 | |
| LCA250Q | 0.75 BSP | 1.0 NPT | F30-08-000 | R30-08-000 | L30-08-000 | C31-08-G00 | 8848-W1-150 | EU-A267 | |

1 Primary muffler for motor exhaust

2 Secondary muffler for valve exhaust:

FA2, FA2B, FA2.5, FA2.5A, FA5, FA5A, FA7 and FA10: Part number 52472 / 1.5 NPT

HA1 and HA2: Part number 52104 / 0.75 NPT

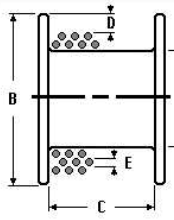
Tech Tips

Technical support is an integral part of the Total System Solution philosophy that IR is dedicated to providing. The following pages contain useful technical information to assist in the selection of high capacity hoists and winches.

For regular updates and additions, please see our website at www.airwinch.com for:

- *Drum Capacity Estimator* program: Plug in your numbers to determine the amount of wire rope a given size drum can hold.
- *Horizontal Load Reversing Capacity Estimator*: Calculates length of drum required to move a load a given distance.
- *Uplinks*: Technical discussions on various topics
- *Winch and hoist options*: Detailed descriptions and benefits of various options for IR hoists and winches
- *Seattle Specials*: Overviews and photos of engineered custom products not found in this catalog

IR Drum Capacity Estimator



A Barrel diameter: inch

B Flange diameter: inch

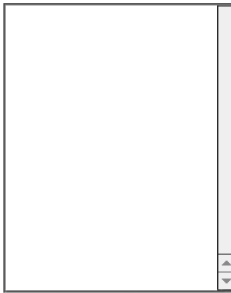
C Drum length: inch

D Freeboard: | inch

E Cable diameter: = inches

Unit of Measure: English Metric

Drum surface: Smooth Grooved



Total Drum Capacity: feet

Total Working Drum Capacity: feet

Recommended Working Capacity: feet

D / d ratio:

Minimum distance to lead sheave: feet

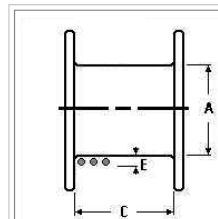
Maximum distance to lead sheave: feet

[Wire Rope chart](#)

[Definitions](#)

IR Horizontal Load Reversing Capacity Estimator

Enter your choices for Barrel Diameter and Cable Size plus a value for either Drum Width or 1st Layer Travel, then click the Calculate button to determine the unknown value



A Barrel diameter: inch <>

E Cable diameter: = inches

Unit of Measure: English Metric

C Drum length: inch

1st Layer Travel: feet

Enter the value for one of these unknowns and click Calculate to generate the other value

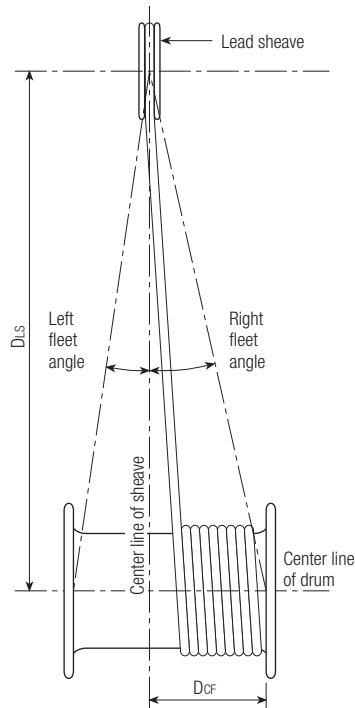
D / d ratio:

Minimum distance to lead sheave: feet < td>

[Wire Rope chart](#)

[Dead Wraps](#)

[What is HLR?](#)



The importance of fleet angle

If a wire rope leads over a sheave and on to a drum, the rope will not remain in alignment with the sheave groove. Instead, it will deviate to either side depending upon the width of the drum and its distance from the fixed sheave, often called the lead sheave. The angle between the center line through the lead sheave and the centerline of the rope leading to the drum is called the fleet angle.

Experience has shown that the best wire rope service is obtained when the maximum fleet angle is not more than 1 1/2° for smooth drums, and 2° for grooved drums. Fleet angles of 1 1/2° and 2° are the equivalents of approximately 38 feet and 29 feet, respectively, of lead for each foot of drum width either side of the center line of the lead sheave.

Courtesy of Broderick & Bascom Rope Co.

Based on the above information, the correct distance (DLs) a lead sheave should be located from the winch drum may be derived by using the following formula:

D_{Ls} for 1 1/2° fleet angle = D_{CF} (in feet) x 38 D_{Ls} for 2° fleet angle = D_{CF} (in feet) x 29

Example: For a winch with a smooth drum thus requiring a 1 1/2° fleet angle:

If D_{CF} = 20 inches (1.66 ft) then D_{Ls} = 1.66 x 38 = approximately 63 feet, the distance that the lead sheave should be positioned away from the drum.

Determining stall and line pull

| Air pressure psi | Air pressure bar | Stall factor | Rope speed factor |
|---------------------|---------------------|-----------------|----------------------|
| 60 | 4.2 | 0.67 | 0.58 |
| 70 | 4.9 | 0.78 | 0.72 |
| 80 | 5.6 | 0.89 | 0.86 |
| 90 | 6.3 | 1.00 | 1.00 |
| 100 | 7.0 | 1.11 | 1.14 |

To obtain performances of the winches in this catalog at operating pressures other than 90 psi, select the load or speed rating required from the applicable curve and multiply that value by the factor corresponding to the operating pressure from the table.

Example: Model BU7A with 1000 lbs (455 kg) line pull, 70 psi (4.9 bar), drum half full. Determine speed.

From performance curve at 90 psi (6.3 bar): 22 fpm (6.7 m/min) x 0.72 (rope speed factor from chart above) = 16 fpm (4.9 m/min)

Wire rope selection

| Rope size | | Breaking strength | | Weight | | Rec'd safe working loads | | | |
|-----------|----|-------------------|-------|--------|------|--------------------------|-------|-------|-------|
| in. | mm | lbs | kg | lbs/ft | kg/m | 3.5:1 | | 5:1 | |
| | | | | | | lbs | kg | lbs | kg |
| 1/4 | 6 | 6800 | 3091 | 0.12 | .17 | 1943 | 883 | 1360 | 618 |
| 5/16 | 8 | 10540 | 4791 | 0.18 | .27 | 3011 | 1369 | 2108 | 958 |
| 3/8 | 9 | 15100 | 6864 | 0.26 | .39 | 4314 | 1961 | 3020 | 1373 |
| 7/16 | 12 | 20400 | 9273 | 0.35 | .52 | 5829 | 2649 | 4080 | 1855 |
| 1/2 | 13 | 26600 | 12091 | 0.46 | .69 | 7600 | 3455 | 5320 | 2418 |
| 5/8 | 15 | 41200 | 18727 | 0.72 | 1.07 | 11771 | 5351 | 8240 | 3745 |
| 3/4 | 19 | 58800 | 26727 | 1.04 | 1.55 | 16800 | 7636 | 11760 | 5345 |
| 7/8 | 22 | 79600 | 36182 | 1.42 | 2.12 | 22743 | 10338 | 15920 | 7236 |
| 1 | 25 | 103400 | 47000 | 1.85 | 2.76 | 29543 | 13429 | 20680 | 9400 |
| 1 1/8 | 28 | 130000 | 59091 | 2.34 | 3.49 | 37143 | 16883 | 26000 | 11818 |
| 1 1/4 | 28 | 159800 | 72636 | 2.89 | 4.31 | 45657 | 20753 | 31960 | 14527 |
| 1 3/8 | 28 | 192000 | 87273 | 3.50 | 5.22 | 54857 | 24935 | 38400 | 17455 |

Ingersoll-Rand recommends that either 6 x 19 or 6 x 37 Extra Improved Plow Steel (EIPS) with independent wire rope core (IWRC) be used. This is a higher strength rope than Improved Plow Steel (IPS) offering, on average, approximately a 15% increase in breaking strength. We recommend it, as it is readily available and offers better value overall.

Spark and corrosion resistant equipment: The S•COR•E series product line is intended to provide improved levels of corrosion and spark-resistant protection for manual, pneumatic and electric powered hoists and trolleys, with capacities available from 1/2 to 50 tons.

The S•COR•E series of options provides for improved protection, durability and performance for hoist operations in corrosive or harsh environments.

It is generally accepted that rusty, and/or corroded steel is more likely to generate sparks than if free from corrosion or rust. Therefore, any improvement in corrosion or rust-resistance results in improved spark-resistance.

A spark of sufficient heat to ignite the surrounding atmosphere generally is unlikely in mechanical hoisting equipment, but it may potentially be generated by friction during operation or unintentional impact of a hoist or trolley with other metal components. In order to provide the user with corrosion and spark-resistance protection,

IR offers different levels of protection from which you can select to fit your particular needs.

The user is cautioned to check carefully the local and/or national standards, codes, etc. which may affect the selection and use of equipment in the intended environment.

Nickel diffused load chain⁽¹⁾ – designed specifically for corrosive and potentially harsh environments.

The manufacturer of the nickel-diffused chain advises us that compared with steel, stainless steel, alloy steel, and copper steel, (under like test conditions) ND chain produced fewer sparks. ND chain is our selection for use on S•COR•E products in the sizes available versus stainless steel, because the ND chain does not lose strength

during the nickel-diffusing process. Additionally, the ND chain has a harder surface and greater corrosion and flaking resistance than the softer chains.

Eventually, both ND chain and most stainless steel chains will have corrosion and, perhaps, some rust. The user should therefore regularly examine the load chain for the appearance of corrosion and rust, which indicates the termination of its spark resistant life, and the chain should be replaced immediately.

Copper plating, zinc plating, solid bronze

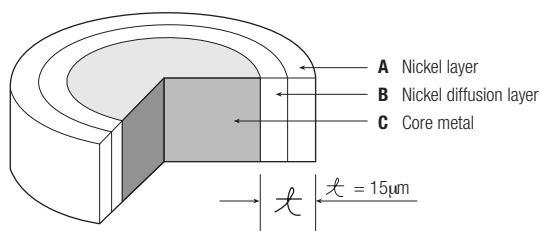
Various institutes and standards organizations have studied the corrosion and spark-resistant nature of metals. Most manufacturers, including IR, will offer products that are resistant to corrosion and sparking, but are not to be considered spark-proof. This is essentially because most metals, including zinc, bronze, and stainless steel, will spark from the application of sufficient striking force and energy.

S•COR•E series products use plated or solid, non-ferrous metals to provide "spark-resistance" by reducing the likelihood of corrosion and sparking, and also the temperature of the spark, if one should occur.

Ultimately, the selection of the correct corrosion and spark-resistant features is the responsibility of the customer.

Plated and "solid bronze" hoist and trolley components

Third party research provides overwhelming evidence that non-ferrous metals and substances offer excellent anti-sparking characteristics. Their use meets or exceeds all known requirements for protection against spark generation in a hydrocarbon environment.



Nickel diffused load chain

Please note; National Electric Code [NEC] and the National Electrical Manufacturers Association [NEMA] have established classes and divisions of hazardous environments for electrical components and equipment. The NEC and NEMA standards do not apply to the mechanical properties of equipment that electric motors may be mounted on.)

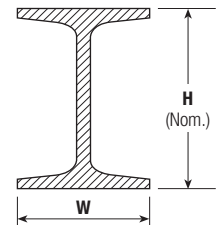
Warning: Before installation see maintenance and operations manual for additional warnings and precautions. This equipment is not to be used for lifting, supporting or transporting people, or lifting or supporting loads over people.

(1) Nickel diffused load chain is only available on Ingersoll-Rand manual chain hoist products.

The following table shows the standard size (H dimension), flange widths (W dimensions) and weights for both American Standard I-beams and Wide Flange H-beams. I-beams designated with an asterisk (*) denote New Series applications which conform to ASTM A6 standards, effective September 1, 1978.

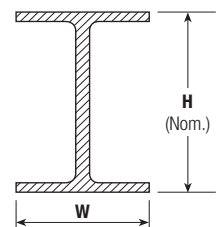
| Wide Flange | | | | | | | | | American Standard | | |
|--------------------|--------|-------------------|-------|--------|-------------------|-------|--------|-------------------|--------------------------|-------|-------------------|
| H in. | W in. | Weight per ft/lbs | H in. | W in. | Weight per ft/lbs | H in. | W in. | Weight per ft/lbs | H in. | W in. | Weight per ft/lbs |
| 6 | 3.940 | 8.5 | 10 | 10.117 | 66.0 | 16* | 6.985 | 36 | 4 | 2.663 | 7.7 |
| 6* | 4.0 | 9.0 | 10* | 10.130 | 68.0 | 16 | 7.0 | 40 | 4 | 2.796 | 9.5 |
| 6 | 4.0 | 12.0 | 10 | 10.170 | 72.0 | 16* | 6.995 | 40 | 5 | 3.004 | 10.0 |
| 6* | 4.0 | 12.0 | 10 | 10.190 | 77.0 | 16 | 7.039 | 45 | 5 | 3.284 | 14.75 |
| 6 | 4.030 | 16.0 | 10* | 10.190 | 77.0 | 16* | 7.035 | 45 | 6 | 3.332 | 12.5 |
| 6* | 4.030 | 16.0 | 10* | 10.625 | 88.0 | 16 | 7.073 | 50 | 6 | 3.565 | 17.25 |
| 6* | 5.990 | 15.0 | 10 | 10.275 | 89.0 | 16* | 7.070 | 50 | 7 | 3.662 | 15.3 |
| 6 | 5.995 | 15.5 | 10 | 10.340 | 100.0 | 16* | 7.120 | 57 | 7 | 3.860 | 20.0 |
| 6 | 6.020 | 20.0 | 10* | 10.340 | 100.0 | 16 | 8.464 | 58 | 8 | 4.001 | 18.4 |
| 6* | 6.018 | 20.0 | 10 | 10.415 | 112.0 | 16* | 10.235 | 67 | 8 | 4.171 | 23.0 |
| 6 | 6.080 | 25.0 | 10* | 10.415 | 112.0 | 16* | 10.295 | 77 | 10 | 4.661 | 25.4 |
| 6* | 6.080 | 25.0 | 12 | 3.968 | 14.0 | 16* | 10.365 | 89 | 10 | 4.944 | 35.0 |
| 8 | 3.940 | 10.0 | 12* | 3.970 | 14.0 | 16* | 10.425 | 100 | 12 | 5.0 | 31.8 |
| 8* | 3.940 | 10.0 | 12* | 3.990 | 16.0 | 16 | 11.502 | 88 | 12 | 5.078 | 35.0 |
| 8 | 4.0 | 13.0 | 12 | 4.0 | 16.5 | 16 | 11.5 | 96 | 12 | 5.252 | 40.8 |
| 8* | 4.0 | 13.0 | 12 | 4.005 | 19.0 | 18 | 6.0 | 35 | 12 | 5.477 | 50.0 |
| 8 | 4.015 | 15.0 | 12* | 4.007 | 19.0 | 18* | 6.0 | 35 | 15 | 5.501 | 42.9 |
| 8* | 4.015 | 15.0 | 12 | 4.030 | 22.0 | 18 | 6.015 | 40 | 15 | 5.640 | 50.0 |
| 8 | 5.250 | 17.0 | 12* | 4.030 | 22.0 | 18* | 6.015 | 40 | 18 | 6.001 | 54.7 |
| 8* | 5.250 | 18.0 | 12* | 6.490 | 26.0 | 18* | 6.060 | 46 | 18 | 6.251 | 70.0 |
| 8 | 5.268 | 20.0 | 12 | 6.497 | 27.0 | 18 | 7.477 | 45 | 20 | 6.25 | 65.4 |
| 8* | 5.270 | 21.0 | 12* | 6.520 | 30.0 | 18 | 7.5 | 50 | 20 | 6.385 | 75.0 |
| 8 | 6.495 | 24.0 | 12 | 6.525 | 31.0 | 18* | 7.5 | 50 | 20 | 7.060 | 86.0 |
| 8* | 6.5 | 24.0 | 12* | 6.560 | 35.0 | 18 | 7.532 | 55 | 20 | 7.200 | 96.0 |
| 8 | 6.535 | 28.0 | 12 | 6.565 | 36.0 | 18* | 7.530 | 55 | 24 | 7.001 | 79.9 |
| 8* | 6.535 | 28.0 | 12 | 8.0 | 40.0 | 18 | 7.558 | 60 | 24 | 7.125 | 90.0 |
| 8 | 7.995 | 31.0 | 12* | 8.005 | 40.0 | 18* | 7.555 | 60 | 24 | 7.245 | 100.0 |
| 8* | 7.995 | 31.0 | 12 | 8.042 | 45.0 | 18* | 7.635 | 71 | 24 | 7.875 | 105.9 |
| 8 | 8.020 | 35.0 | 12* | 8.045 | 45.0 | 18 | 8.715 | 64 | 24 | 8.050 | 121.0 |
| 8* | 8.020 | 35.0 | 12 | 8.077 | 50.0 | 18 | 8.75 | 70 | | | |
| 8 | 8.070 | 40.0 | 12* | 8.080 | 50.0 | 18 | 8.787 | 77 | | | |
| 8* | 8.070 | 40.0 | 12 | 10.0 | 53.0 | 18* | 11.035 | 76 | | | |
| 8 | 8.110 | 48.0 | 12* | 9.995 | 53.0 | 18* | 11.090 | 86 | | | |
| 8* | 8.110 | 48.0 | 12 | 10.014 | 58.0 | 18* | 11.145 | 97 | | | |
| 8 | 8.220 | 58.0 | 12* | 10.010 | 58.0 | 18* | 11.200 | 106 | | | |
| 8* | 8.220 | 58.0 | 14 | 5.0 | 22.0 | 18* | 11.265 | 119 | | | |
| 8 | 8.280 | 67.0 | 14* | 5.0 | 22.0 | 18 | 11.75 | 96 | | | |
| 8* | 8.280 | 67.0 | 14 | 5.025 | 26.0 | 21 | 6.5 | 44 | | | |
| 10 | 3.950 | 11.5 | 14* | 5.025 | 26.0 | 21* | 6.5 | 44 | | | |
| 10* | 3.960 | 12.0 | 14 | 6.730 | 30.0 | 21* | 6.530 | 50 | | | |
| 10 | 4.0 | 15.0 | 14* | 6.730 | 30.0 | 21* | 6.555 | 57 | | | |
| 10* | 4.0 | 15.0 | 14 | 6.75 | 34.0 | 21 | 8.215 | 55 | | | |
| 10 | 4.010 | 17.0 | 14* | 6.745 | 34.0 | 21 | 8.240 | 62 | | | |
| 10* | 4.010 | 17.0 | 14 | 6.770 | 38.0 | 21* | 8.240 | 62 | | | |
| 10 | 4.020 | 19.0 | 14* | 6.770 | 38.0 | 21 | 8.270 | 68 | | | |
| 10* | 4.020 | 19.0 | 14 | 8.0 | 43.0 | 21* | 8.270 | 68 | | | |
| 10 | 5.75 | 21.0 | 14* | 7.995 | 43.0 | 21 | 8.295 | 73 | | | |
| 10* | 5.75 | 22.0 | 14 | 8.031 | 48.0 | 21* | 8.295 | 73 | | | |
| 10 | 5.762 | 25.0 | 14* | 8.030 | 48.0 | 21* | 8.355 | 83 | | | |
| 10* | 5.770 | 26.0 | 14 | 8.062 | 53.0 | 21* | 8.420 | 93 | | | |
| 10 | 5.799 | 29.0 | 14* | 8.060 | 53.0 | 21 | 8.962 | 82 | | | |
| 10* | 5.810 | 30.0 | 14 | 10.0 | 61.0 | 24 | 7.005 | 55 | | | |
| 10 | 7.960 | 33.0 | 14* | 9.995 | 61.0 | 24* | 7.005 | 55 | | | |
| 10* | 7.960 | 33.0 | 14 | 10.035 | 68.0 | 24* | 7.040 | 62 | | | |
| 10 | 7.985 | 39.0 | 14 | 10.035 | 68.0 | 24 | 8.961 | 68 | | | |
| 10* | 7.985 | 39.0 | 14 | 10.072 | 74.0 | 24* | 8.965 | 68 | | | |
| 10 | 8.020 | 45.0 | 14* | 10.070 | 74.0 | 24 | 8.965 | 76 | | | |
| 10* | 8.020 | 45.0 | 14 | 12.0 | 78.0 | 24* | 8.990 | 76 | | | |
| 10 | 10.0 | 49.0 | 14 | 14.5 | 87.0 | 24 | 9.015 | 84 | | | |
| 10* | 10.0 | 49.0 | 14* | 10.130 | 82.0 | 24* | 9.020 | 84 | | | |
| 10 | 10.030 | 54.0 | 16 | 5.5 | 26.0 | 24 | 9.065 | 94 | | | |
| 10* | 10.030 | 54.0 | 16 | 5.525 | 31.0 | 24* | 9.065 | 94 | | | |
| 10 | 10.080 | 60.0 | 16* | 5.525 | 31.0 | - | - | - | | | |
| 10* | 10.080 | 60.0 | 16 | 6.692 | 36.0 | - | - | - | | | |

American Standard



Tapered "I" Beam

Wide Flange



Flat "H" Beam

Explanation of metric units

The kilogram (kg) is a unit of mass. Mass is the property of matter which determines its inertia. The mass of a body never varies and is independent of gravitational force.

The newton (N) is a unit of force. The first law of motion, force is equal to mass times acceleration, defines the newton in terms of base units. $1\text{ N} = 1\text{ kg} \cdot \text{m/s}^2$

The joule (J) is a unit of energy and is the work done when a force of one newton is displaced a distance of one meter in the direction of the force. $1\text{ J} = \text{N} \cdot \text{m}$

The watt (W) is a unit of power which produces energy at the rate of one joule per second. $1\text{ W} = \text{J/s}$

The pascal (Pa) is a unit for pressure or stress of one newton per square meter. $1\text{ Pa} = 1\text{ N/m}^2$

The kelvin (K) is the unit for Thermodynamic Temperature and is the preferred unit to express temperature and temperature intervals. However, it is permissible to use the Celsius scale where considered necessary. The temperature interval one degree Celsius equals one kelvin exactly.

Length

| To convert US measure | multiply by | to obtain metric measure |
|-----------------------|-------------|--------------------------|
| Inches (in.) | 25.4 | millimeters (mm) |
| Inches (in.) | 2.54 | centimeters (cm) |
| Inches (in.) | 0.0254 | meters (m) |
| Feet (ft) | 304.8 | millimeters (mm) |
| Feet (ft) | 30.48 | centimeters (cm) |
| Feet (ft) | 0.3048 | meters (m) |
| Yards (yd) | 0.9144 | meters (m) |

Area

| | | |
|----------------------------------|--------|---------------------------------------|
| Square inches (in ²) | 645.16 | square millimeters (mm ²) |
| Square inches (in ²) | 6.4516 | square centimeters (cm ²) |
| Square feet (ft ²) | 929.03 | square centimeters (cm ²) |
| Square yards (yd ²) | 0.836 | square meters (m ²) |

Volume

| | | |
|---------------------------------|----------|--------------------------------------|
| Cubic inches (in ³) | 16.39 | cubic centimeters (cm ³) |
| Cubic feet (ft ³) | 0.02832 | cubic meters (m ³) |
| Cubic yards (yd ³) | 0.7646 | cubic meters (m ³) |
| Fluid ounces (fl oz) | 29.57 | milliliters (mL) |
| US quarts (qt) | 0.946 | liters (L) |
| US gallons (gal) | 3.785 | liters (L) |
| US gallons (gal) | 0.003785 | cubic meters (m ³) |

Mass

| | | |
|--------------|---------|-----------------|
| Ounces (oz) | 28.35 | grams (g) |
| Pounds (lbs) | 453.6 | grams (g) |
| Pounds (lbs) | 0.4536 | kilograms (kg) |
| Pounds (lbs) | 0.00045 | metric tons (t) |
| US tons (T) | 907.18 | kilograms (kg) |
| US tons (T) | 0.9072 | metric tons (t) |

Force

| | | |
|----------------------|--------|--------------------|
| Pounds (lbs) | 4.4448 | Newtons (N) |
| Pounds (lbs) | 0.0044 | kilonewtons (kN) |
| Foot pounds (ft-lbs) | 1.3557 | Newton meters (Nm) |

Flow rate

| To convert US measure | multiply by | to obtain metric measure |
|-----------------------------|-------------|---|
| Cubic feet per minute (cfm) | 0.02832 | cubic meters per minute (m ³ /min) |
| Cubic feet per minute (cfm) | 1.699 | cubic meters per hour (m ³ /h) |
| Cubic feet per hour (cfh) | 0.02832 | cubic meters per hour (m ³ /h) |
| Feet per minute (fpm) | 0.3048 | meters per minute (m/min) |
| Pounds per minute (lb/m) | 0.4536 | kilograms per minute (kg/min) |

Pressure stress

| | | |
|--|----------|---|
| Pounds per square inch (psi) | 6.895 | kilopascals (kPa) |
| Pounds per square inch (psi) | 0.0007 | kilograms per square millimeter (kg/mm ²) |
| Pounds per square inch (psi) | 0.07 | bar |
| Foot pounds per square inch (lbf/in ²) | 0.006895 | megapascals (mPa) |
| Bars | 100 | kilopascals (kPa) |

Energy work

| | | |
|----------------------|-------|-----------------|
| Foot pounds per foot | 1.356 | joules (J) |
| Calories | 4.187 | joules (J) |
| Btus | 1.055 | kilojoules (kJ) |
| Kilowatt hours | 3.6 | megajoules (MJ) |

Power

| | | |
|--------------------------------|--------|----------------|
| Btus per hour (Btu/h) | 0.2931 | watts (W) |
| Btus per second (Btu/s) | 1.055 | kilowatts (kW) |
| Ft lbs per ft/min (ft lbf/min) | 0.0226 | watts (W) |
| Horsepower (hp) | 0.7457 | kilowatts (kW) |

Temperature

| | | |
|--------------------|--------------------------|-----------------|
| Degrees Fahrenheit | $1.8 + 32$ | degrees Celsius |
| Degrees Kelvin | degrees Celsius + 273.15 | |

IR Winch Check List

Fax to the FASTeam, Seattle at 206-624-6265; call 206-624-0466 or email to: FASTeam@irco.com

This form should accompany all winch inquiries. Use of this check list will help minimize changes after the order has been entered.

Distributor _____ End user _____

Contact name _____ Contact name _____

Fax/phone no. _____ Fax/phone no. _____

Reference no. (order/inquiry/bid) _____ Reference no. (order/inquiry/bid) _____

General description/model or application requirements (please describe in detail the application and provide a sketch or drawing if possible). _____

Quantity _____

Power source:

Manual _____

Air (pressure, flow) _____

Electric (cycles, phase, voltage) _____

Hydraulic (pressure, flow) _____

Lifting or pulling application _____ How far/how high _____

Selected winch capacity _____ Winch speed? _____ fpm

Speed at mid-drum, top or first wrap layer? _____ fpm

Drum storage _____ Rope diameter _____ in./min

Duty cycle (if known) _____ Environment _____

Time required to complete lift or pull (speed) _____ fpm

Control type (local, remote, electrical voltage. Include maximum distance.) _____

Special standards or documents required? _____ Name/no. _____

Special paint/color/coating? _____ Details _____

Special manufacturing requirements? _____ QA/QC _____

Options:

Brakes Manual _____ Auto _____ Band _____

Disc _____ Special _____

Drum Standard _____ Other length _____ Flange _____

Grooving _____ Divider flange _____

Drum guard _____ (fixed/movable)

Air line equipment (FRL's, muffler, tension manifold) _____

Other options _____

Attach additional sheets if required and sketches if possible

IR Hoist Check List

Fax to the FASTeam, Seattle at 206-624-6265; call 206-624-0466 or email to: FASTeam@irco.com

This form should accompany all hoist inquiries. Use of this check list will help minimize changes after the order has been entered.

Distributor _____ End user _____
Contact name _____ Contact name _____
Fax/phone no. _____ Fax/phone no. _____
Reference no. (order/inquiry/bid) _____ Reference no. (order/inquiry/bid) _____

General description/model or application requirements (please describe in detail the application and provide a sketch or drawing if possible). _____

Power source:

- Manual _____
- Air (pressure, flow) _____
- Electric (cycles, phase, voltage) _____
- Hydraulic (pressure, flow) _____

Capacity _____ Headroom requirements _____

Lift _____ feet (This is the distance the hook must travel.)

Hoist lifting speed _____ fpm Special chain _____

Control length _____ feet Chain bucket? yes no

For air pendent, standard or pilot? _____ Or Accu-trol? _____

Duty cycle (if known) _____ Electrical protection _____

Environment _____ Overload device _____

Type and number of brakes _____

Suspension (lug, trolley, hook, other) _____

Beam size/type, flange width _____ If power trolley – speed required _____ fpm

For power trolley, power cord length _____ feet

Does control need to be combined with hoist control? _____

Special standards or documents required? _____ Name/no. _____

Special paint/color/coating? _____ Details _____

Special manufacturing requirements? _____ QA/QC _____

Accessories (limit switches, FRL's, Travel-Air, hoses, etc.) _____

Attach additional sheets if required and sketches if possible

Winch and High Capacity Hoist Limited Warranty



IR warrants to the original user its Winches and High Capacity Hoists (Products) to be free of defects in material and workmanship for a period of one year from the date of purchase. IR will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any Product proves defective within its original one year warranty period, it should be returned to any Authorized Hoist and Winch Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which IR has determined to have been misused or abused, improperly maintained by the purchaser; or where the malfunction or defect can be attributed to the use of non-genuine IR parts.

IR makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set forth above. IR's maximum liability is limited to the purchase price of the Product and in no event shall IR be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the Product, whether based on contract, tort, or otherwise.

Note: Some states do not allow limitations on incidental or consequential damages or how long an implied warranty lasts so that the above limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.



Ingersoll Rand (NYSE:IR) advances the quality of life by creating and sustaining safe, comfortable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Thermo King® and Trane® —work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; secure homes and commercial properties; and increase industrial productivity and efficiency. Ingersoll Rand products range from complete compressed air systems, tools and pumps to material handling systems. The diverse and innovative products, services and solutions enhance our customers' energy efficiency, productivity and operations. We are a \$14 billion global business committed to a world of sustainable progress and enduring results. For more information, visit ingersollrand.com.



www.ingersollrandproducts.com

Distributed by:

Ingersoll Rand, IR and the IR logo are trademarks of Ingersoll Rand, its subsidiaries and/or affiliates. All other trademarks are the property of their respective owners.

WARNING: This equipment is not designed for transporting people or lifting loads above people. It is the user's responsibility to determine the suitability of this product for any particular use and to check compliance with applicable regulations. Before installation, see maintenance and operations manual for additional warnings and precautions.

Nothing contained on these pages is intended to extend any warranty or representation, expressed or implied, regarding the product described herein. Any such warranties or other terms and conditions of sale of products shall be in accordance with Ingersoll Rand's standard terms and conditions of sale for such products, which are available upon request.

Product improvement is a continuing goal at Ingersoll Rand. Designs and specifications are subject to change without notice or obligation.