

# 3200, 5200 & 5300 Series Side Mount 90° Drive Package for Light & Standard Load Gearmotors

**Installation, Maintenance & Parts Manual** 



# Featuring: **eDrive**<sup>™</sup> Technology

DORNER MFG. CORP. P.O. Box 20 • 975 Cottonwood Ave. Hartland, WI 53029-0020 USA INSIDE THE USA TEL: 1-800-397-8664 FAX: 1-800-369-2440 OUTSIDE THE USA TEL: 262-367-7600 FAX: 262-367-5827

For other service manuals visit our website at: www.dorner.com/service\_manuals.asp

# **Table of Contents**

Table of Contents	2
Introduction	2
Warnings - General Safety	3
Product Description	4
Specifications	5
Gearmotor Mounting Package Models:	5
Table 1: Gearmotor Specifications	5
U.S. Version	5
CE Version	5
Table 2: Belt Speeds for	
Fixed Speed 90° 60 Hz Gearmotors	6
U.S. Version (60 Hz Gearmotors)	6
CE Version (50 Hz Gearmotors)	6
Table 3: Belt Speeds for	
Variable Speed 90° DC Gearmotors	6
U.S. Version	6
CE Version	6

Table 4: Belt Speeds for	
Fixed Speed 90° VFD Gearmotors	7
Installation	8
Required Tools	8
Mounting	
Preventive Maintenance and Adjustment	10
Required Tools	10
Gear Reducer Replacement	10
Motor Replacement	13
U.S. Version	
CE Version	14
Service Parts	16
Side Mount Drive Package for	
90° Industrial Gearmotors	16
90° Industrial Gearmotors	
U.S. Version	
CE Version	
Return Policy	20

## Introduction

## IMPORTANT

Some illustrations may show guards removed. DO NOT operate equipment without guards.

Upon receipt of shipment:

- · Compare shipment with packing slip. Contact factory regarding discrepancies.
- · Inspect packages for shipping damage. Contact carrier regarding damage.
- Accessories may be shipped loose. See accessory instructions for installation.

Dorner 3200 Series conveyors are covered by patent numbers 5156260, 5156261, 5203447, 5265714, 6871737, 6910571, 6971509, and patent applications in other countries.

Dorner LPZ Series conveyors are covered by patent numbers 5156260, 5156261, 5203447, 5265714, 5875883 and patent applications in other countries.

Dorner 5200 Series conveyors have patents pending.

Dorner's Limited Warranty applies.

Dorner reserves the right to make changes at any time without notice or obligation.

Dorner has convenient, pre-configured kits of Key Service Parts for all conveyor products. These time saving kits are easy to order, designed for fast installation, and guarantee you will have what you need when you need it. Key Parts and Kits are marked in the Service Parts section of this manual with the Performance Parts Kits **[33]** logo.

# Warnings - General Safety



# **Product Description**

Refer to Figure 1 for typical conveyor components.

- 1 Conveyor
- 2 Gearmotor Mounting Package
- 3 Gearmotor Assembly
- 4 Spider Web Bushing
- 5 Anti-Rotation Pin
- 6 Coupling Half



Figure 1

## NOTE

The 90° industrial gearhead changed configuration in 2011. See below for configuration details.



Mount Packages with Old Style Gearmotors prior to June 2011 Figure 2



Mount Packages with e-Drive Gearmotors Figure 3

# **Specifications**

### **Gearmotor Mounting Package Models:**

Example:





## **Table 1: Gearmotor Specifications**

#### **U.S. Version**

	L	ight Load Gea	Load Gearmotor Standard Load Gearmotor					
Item	Single- Phase	Three Phase	DC Variable Speed	Single- Phase	Three Phase	VFD Variable Speed	DC Variable Speed	
Output Power		0.25 hp (0.19	kw)		0.5	hp (0.37 kw)		
Input Voltage	115VA C	208 – 230/ 460 VAC	130VDC	115VAC	208 – 230/ 460 VAC	230 VAC	90VDC	
Input Frequency		60Hz	N/A	60Hz		10 – 60Hz	N/A	
Input Current (Amperes)	5.0	1.2/0.6	2.2	7.4	2.1 – 2/1	1.6	5.0	
Gearmotor Ratios	5:1	I, 10:1, 20:1, 40	0:1, 20:1, 40:1, 60:1 5:1, 10:1, 20:1					
Frame Size	NEMA 42CZ			NEMA 56C				
Motor Type	Tota	ally enclosed, F	an cooled		Totally en	iclosed, Fan cooled		

#### **CE Version**

	Lig	ht Load Gearmo	tor	Stand	notor	
Item	Single Phase	Three Phase	VFD Variable Speed	Single Phase	Three Phase	VFD Variable Speed
Output Power		0.18 kW			0.37 kW	
Input Voltage	230 VAC	230/400 VAC	230 VDC	230 VAC	230/400 VAC	230 VAC
Input Frequency	50	) Hz	25 to 63 Hz	50 Hz 25 to		
Input Current	1.6 Amperes	1.4/0.8 Amperes	1.4 Amperes	2.6 Amperes	2.1/1.2 Amperes	2.1 Amperes
Gearmotor Ratios	5:1,	10:1, 20:1, 40:1, 6	50:1		5:1, 10:1, 20:1	·
Protection Rating		IP55			IP55	
Frame Size		IEC 63 B5			IEC 71 B5	

# **Specifications**

## Table 2: Belt Speeds for Fixed Speed 90° Gearmotors

### U.S. Version (60 Hz Gearmotors)

Light Load	Standard Load Gearmotors				Belt Speed				
Part Number	RPM	In-lb	N-m	Part Number	RPM	In-lb	N-m	Ft/min	M/min
32M060EL4(vp)FN	29	319	36	32M060ES4(vp)FN	29	319	36	23	7.0
32M040EL4(vp)FN	43	238	26.9	32M040ES4(vp)FN	43	378	42.7	34	10.4
32M020EL4(vp)FN	86	142	16	32M020ES4(vp)FN	86	285	32.2	69	21.0
32M010EL4(vp)FN	173	78	8.7	32M010ES4(vp)FN	173	153	17.3	137	41.8
N/A	N/A	N/A	N/A	32M005ES4(vp)FN	345	80	9	275	83.8

(vp) = voltage and phase

11 = 115 V, 1 -phase

23 = 208 - 230/460 V, 3-phase

#### **CE Version (50 Hz Gearmotors)**

Light I	Load Gea	rmotors	Standard	Belt Speed		
Part Number	RPM	N-m 1-phase/3-phase	Part Number	RPM	N-m 1-phase/3-phase	M/min
62Z060ES4(vp)FN	23	36/36	32Z060ES4(vp)FN	23	36/36	5.8
62Z040ES4(vp)FN	35	26.9/35.5	32Z040ES4(vp)FN	35	26.9/35.5	8.5
62Z020ES4(vp)FN	70	16/21.2	32Z020ES4(vp)FN	70	32.2/32.2	17.1
62Z010ES4(vp)FN	140	11.4/17.3	32Z010ES4(vp)FN	140	17.3/17.3	33.8
62Z005ES4(vp)FN	280	4.5/5.9	32Z005ES4(vp)FN	280	17.3/17.3	68.0

(vp) = voltage and phase

23 = 230 V, 3-phase

21 = 230 V, 1-phase

43 = 400 V, 3-phase

## Table 3: Belt Speeds for Variable Speed 90° DC Gearmotors

#### U.S. Version (60 Hz Gearmotors)

Light Load	Standard Load Gearmotors				Belt Speed				
Part Number	RPM	In-lb	N-m	Part Number	RPM	In-lb	N-m	Ft/min	M/min
32M060ELD3DEN	42	198	22.4	32M060ESD9DEN	42	198	22.4	4.0 - 33	1.2 – 10
32M040ELD3DEN	63	163	18.4	32M040ESD9DEN	63	215	24.3	6.0 - 50	1.8 – 15
32M020ELD3DEN	125	98	11.1	32M020ESD9DEN	125	196	22.1	12 – 100	3.6 – 30
32M010ELD3DEN	250	54	6.1	32M010ESD9DEN	250	108	12.2	24 – 200	7.3 – 61
N/A	N/A	N/A	N/A	32M005ESD9DEN	500	56	6.3	48 – 398	15– 121

#### **CE Version (50 Hz Gearmotors)**

Light Load Gea	Light Load Gearmotors			Standard Load Gearmotors			
Part Number	RPM	N-m	Part Number	RPM	N-m	M/min	
62Z060ES423EN	23	36	32Z060ES423EN	23	36	2.8 - 7.1	
62Z040ES423EN	35	35.5	32Z040ES423EN	35	35.5	4.2 - 11	
62Z020ES423EN	70	21.2	32Z020ES423EN	70	32.2	8.5 - 21	
62Z010ES423EN	140	17.3	32Z010ES423EN	140	17.3	17 - 43	
62Z005ES423EN	280	5.9	32Z005ES423EN	280	17.3	34 - 86	

# **Specifications**

## Table 4: Belt Speeds for Fixed Speed 90° VFD Gearmotors

Light Load	Gearmoto	Standard Load Gearmotors				Belt Speed			
Part Number	RPM	In-lb	N-m	Part Number	RPM	In-lb	N-m	Ft/min	M/min
32M060EL423EN	29	319	36	32M060ES423EN	29	319	36	2.3 – 22.9	0.7 – 7.0
32M040EL423EN	43	238	26.9	32M040ES423EN	43	378	42.7	3.4 - 34.3	1.0 – 10.5
32M020EL423EN	86	142	16	32M020ES423EN	86	285	32.2	6.9 - 68.6	2.1 – 20.9
32M010EL423EN	173	78	8.7	32M010ES423EN	173	153	17.3	13.7 – 137.3	4.2 – 41.9
32M005EL423EN	345	40	4.5	32M005ES423EN	345	80	9	27.5 – 274.6	8.4 - 83.7

#### NOTE

For belt speed other than those listed, contact factory for details.

# Installation

## **Required Tools**

- Hex key wrenches: 2 mm, 2.5 mm, 3 mm, 5 mm
- Torque wrench

## Mounting



#### **Installation Component List:**

- Gearmotor Assembly 1
- 2 Spider Web Bushing
- 3 Anti-rotation pin
- 1. Typical components (Figure 4).





## NOTE

Gearmotor may be operated in positions 1, 3 or 4 (Figure 5).



#### Figure 5

2. Install spider bushing (Figure 6, item 1) in three jaw coupling (Figure 6, item 2).





Rotate conveyor belt and attached conveyor coupling 3. (Figure 7, item 1) to align with gearmotor coupling (Figure 7, item 2).



Figure 7

# Installation

 Slide mounting screws (Figure 8, item 1) through slots (Figure 8, item 2) in gearmotor bracket (Figure 8, item 3). Rotate gearmotor assembly into desired position.



Figure 8

 Tighten screws (Figure 9, item 1) to 146 in-lbs (16.5 N-m) and install anti rotation pin (Figure 9, item 2).



Figure 9

## **Required Tools**

- Hex-key wrenches: 2 mm, 2.5 mm, 3 mm, 5 mm
- Adjustable wrench (for hexagon head screws)
- Straight edge
- Torque wrench

## **Gear Reducer Replacement**



The 90° industrial gearhead changed configuration in 2011. See below for configuration details. See Service Parts section to ensure proper replacement parts are installed.



Old Style Gearmotor prior to June 2011 Figure 10



#### e-Drive Gearmotor Figure 11

1. Remove two (2) screws (Figure 12, item 1) and remove drive shaft cover (Figure 12, item 2).



Figure 12

## **WARNING**

Gearmotor can rotate and fall off, causing injury.

Support the gearmotor prior to removing anti rotation pin.

2. Loosen the four (4) coupling lock screws (Figure 13, item 1), remove anti rotation pin (Figure 13, item 2). Rotate and remove gearmotor assembly.



Figure 13

3200, 5200 & 5300 Series Side Mount 90° Drive Package for Light & Standard Load Gearmotors Dorner Mfg. Corp. 10

 Remove the four (4) gearmotor coupling guard screws (Figure 14, item 1) and remove the gearmotor coupling guard (Figure 14, item 2) and mounting ring (Figure 14, item 3).



4. Remove the four (4) adapter screws (Figure 15, item 1) and remove the adapter (Figure 15, item 2).



Figure 15

5. Loosen set screw (Figure 16, item 1) and remove 3 jaw coupling (Figure 16, item 2).



Figure 16

- 6. Remove four screws (Figure 17, item 1). Detach motor (Figure 17, item 2) from gear reducer
  (Figure 17, item 2) Potential and the scheme screws (Figure 17, item 2) Potential and the scheme screws (Figure 17, item 2) Potential and the scheme screws (Figure 17, item 2) Potential and the scheme sche
  - (Figure 17, item 3). Retain motor output shaft key.



Figure 17

 Loosen screw (Figure 18, item 1). Tap screw with hammer to break tapered shaft free. Remove screw (Figure 18, item 1) and remove gear reducer output shaft (Figure 18, item 2) and key (Figure 18, item 3).



Figure 18

8. Insert the new shaft (Figure 18, item 2) and key (Figure 18, item 3) into new gear reducer. Tighten flat head screw (Figure 18, item 1).

9. Install cover (Figure 12, item 2) and tighten two (2) screws (Figure 12, item 1) to 50 in–lbs (5.6 N–m).

## IMPORTANT

Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.

 Apply anti-seize to motor shaft before assembling to gearbox. With key (Figure 19, item 1) in keyway, slide motor (Figure 19, item 2) and gear reducer (Figure 19, item 3) together.



Figure 19

11. Install screws (Figure 20, item 1) and tighten to 65 inlbs (7.3 N-m).



Figure 20

12. Install 3 jaw coupling (Figure 21, item 1) so that the end of the shaft is even with the coupling. Tighten set screws (Figure 21, item 2) to 45 in–lbs (5 N–m).



#### Figure 21

- 13. Install gearmotor coupling guard (Figure 14, item 2) and mounting ring (Figure 14, item 3) to gearmotor, and tighten screws (Figure 14, item 1) to 110 in-lb (12 N-m).
- 14. Complete steps 2 through 5 of "Mounting" section beginning on page 8.

### **Motor Replacement**

#### **U.S. Version**



#### Figure 22

- b. Record wire colors on terminals 1, 2 and 3. Loosen wire nuts and remove wires 1, 2 and 3.
- c. Loosen cord grip and remove cord.

3. For DC variable speed motor, unplug motor cord at disconnect (Figure 23, item 1).



Figure 23

 Remove four (4) screws (Figure 24, item 1). Detach motor (Figure 24, item 2) from gear reducer (Figure 24, item 3). Retain motor output shaft key.



Figure 24

#### **IMPORTANT**

Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.

 Apply anti-seize to motor shaft before assembling to gearbox. With key (Figure 25, item 1) in keyway, slide motor (Figure 25, item 2) and gear reducer (Figure 25, item 3) together.



Figure 25

6. Install screws (Figure 26, item 1) and tighten to 65 inlbs (7.3 N-m).



Figure 26

- 7. Replace wiring:
- For a single phase motor, reverse step 1 on page 12.
- For a three phase or VFD variable speed motor, reverse step 2 on page 12.
- For a DC variable speed motor, reverse step 3 on page 12.

#### **CE Version**



- For single phase motor: 1.
  - Loosen terminal box screws (Figure 27, item 1) a. and remove cover (Figure 27, item 2).



Figure 27

Record wire colors on terminals 2, 6 and ground b. (Figure 28). Loosen terminals 2, 6 and ground and remove wires.



Figure 28

- Loosen cord grip (Figure 28, item 1) and remove c. cord.
- 2. For three phase and VFD variable speed motor:
  - Loosen terminal box screws (Figure 27, item 1) а and remove cover (Figure 27, item 2).
  - b. Record wire colors on terminals U1, V1, W1 and PE (Figure 29). Loosen terminals U1, V1, W1and PE and remove wires.



Figure 29

Loosen cord grip (Figure 29, item 1) and remove c. cord.

 Remove four (4) screws (Figure 30, item 1). Detach motor (Figure 30, item 2) from gear reducer (Figure 30, item 3). Retain motor output shaft key.



Figure 30

### IMPORTANT

Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.

 Apply anti-seize to motor shaft before assembling to gearbox. With key (Figure 31, item 1) in keyway, slide motor (Figure 31, item 2) and gear reducer (Figure 31, item 3) together.



Figure 31

5. Install screws (Figure 32, item 1) and tighten to 65 inlbs (7.3 N-m).



- Figure 32
- 6. Replace wiring:
- For a single phase motor, reverse step 1 on page 13.
- For a three phase or VFD variable speed motor, reverse step 2.

## NOTE

For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory. Key Service Parts and Kits are identified by the Performance Parts Kits logo 🖙 . Dorner recommends keeping these parts on hand.

## Side Mount Drive Package for 90° Industrial Gearmotors



Item	Part Number	Description
1	301092	Short Side Drive Guard (x2)
2	301094	Drive Side Mounting Ring
3	350113	Long Side Drive Guard (x2)
4	350119	Drive Shaft (for E-Drive 42CZ C Face
		Gearmotors)
	350120	Drive Shaft (for E-Drive 56 C Face
		Gearmotors)
	350134	Drive Shaft (for E-Drive IEC 63B5 and
		IEC 71B5 Gearmotors)
5	400026	Spacer Ring (for E-Drive 42CZ C Face
	050445	Gearmotors)
	350115	Adapter (for E-Drive 56 C Face, IEC
6	807-2059	63B5 and IEC 71B5 Gearmotors) Drive-Bearing Shaft Cover (for E-Drive
o	807-2059	42CZ C Face Gearmotors)
	807-2016	Drive-Bearing Shaft Cover
	007-2010	(for E-Drive 56 C Face, IEC 63B5 and
		IEC 71B5 Gearmotors)
	300139	Drive-Bearing Shaft Cover (for Old
		Style Gearmotors, Prior to June 2011)
7	605280P	Washer (for E-Drive 42CZ C Face
		Gearmotors)
8	807-1140	
-		1 5
10	807-1143	3 Jaw Rubber Spider
11	807-1169	Quick Release Pin
12	912-078	
13	912-084	Square Key, 0.188" x 1.50"
	980636M	Square Key, 6 mm x 36 mm
	00004014	,
		-
17	920893M	
	931020MSS	
	0010201000	
		IEC 71B5 Gearmotors)
18	980630M	Square Key, 6 mm x 30 mm
19	920620M	Socket Head Screw, M6-1.00 x 20 mm
		(for E-Drive 56 C Face, IEC 63B5 and
		IEC 71B5 Gearmotors)
9 10 11 12 13 14 15 16 17 18	807-1141 807-1143 807-1169 912-078 912-084 980636M 920612M 920635M 920635M 920893M 931020MSS 980630M	20 mm 3 Jaw Coupling 5/8" 3 Jaw Coupling 3 Jaw Rubber Spider Quick Release Pin Square Key, 0.188" x 0.75" Square Key, 0.188" x 1.50" Square Key, 6 mm x 36 mm (for E-Drive IEC 63B5 and IEC 71B5 Gearmotors) Socket Head Screw, M6-1.00 x 12 mm Socket Head Screw, M6-1.00 x 35 mm Socket Head Screw, M6-1.00 x 35 mm Socket Head Screw, M6-1.00 x 80 mm Low Head Cap Screw, M8-1.25 x 16 mm (for E-Drive 42CZ C Face Gearmotors) Flat Head Screw M10-1.50 x 20 mm (for E-Drive 56 C Face, IEC 63B5 and IEC 71B5 Gearmotors) Square Key, 6 mm x 30 mm Socket Head Screw, M6-1.00 x 20 mm (for E-Drive 56 C Face, IEC 63B5 and

## 90° Industrial Gearmotors

### **U.S. Version**



Item	Part No.	Description
1 🖸	62MES411FN	Motor, 0.25hp (0.19Kw), 115/230 Volts, 60 Hz, 1-Phase
	62MES423FN	Motor, 0.25hp (0.19Kw), 208–230/460 Volts, 60 Hz, 3-Phase
	22MSD3DEN	Motor, 0.25hp (0.19Kw), 130 VDC
	62MEH411FN	Motor, 0.5hp (0.37Kw), 115/230 Volts, 60Hz, 1–Phase
	32MES423FN	Motor, 0.5hp (0.37Kw) 208–230/460 Volts, 60Hz, 3 Phase
	62MHD9DEN	Motor, 0.5hp (0.37Kw), 90 VDC
	32MES423EN	Motor, 0.5hp (0.37Kw), 230 Volts, 3 Phase Inverter Duty
	32MHD9DEN	Motor, 0.75 hp, (0.56Kw), 90 VDC
2 🗂	32M005EL	Gear Reducer, 5:1, NEMA 42CZ
	32M010EL	Gear Reducer, 10:1, NEMA 42CZ
	32M020EL	Gear Reducer, 20:1, NEMA 42CZ
	32M040EL	Gear Reducer, 40:1, NEMA 42CZ
	32M060EL	Gear Reducer, 60:1, NEMA 42CZ
	32M005ES	Gear Reducer, 5:1, NEMA 56C
	32M010ES	Gear Reducer, 10:1, NEMA 56C
	32M020ES	Gear Reducer, 20:1, NEMA 56C
	32M040ES	Gear Reducer, 40:1, NEMA 56C
	32M060ES	Gear Reducer, 60:1, NEMA 56C
	32M010EH	Gear Reducer, 10:1, 140 TC

## **CE Version**



ltem	Part No.	Description
1 🖸	826-281	Motor, 0.19 kW 230 Volts, 1400 RPM 50 Hz, 1-Phase
	826-282	Motor, 0.37 kW 230 Volts, 1400 RPM 50 Hz, 1-Phase
	826-284	Motor, 0.19 kW 230/400 Volts, 1400 RPM 50 Hz, 3-Phase
	826-285	Motor, 0.37 kW 230/400 Volts, 1400 RPM 50 Hz, 3-Phase
2 🗂	62Z005ES	Gear Reducer, 5:1, 63 B5
	62Z010ES	Gear Reducer, 10:1, 63 B5
	62Z020ES	Gear Reducer, 20:1, 63 B5
	62Z040ES	Gear Reducer, 40:1, 63 B5
	62Z060ES	Gear Reducer, 60:1, 63 B5
	32Z005ES	Gear Reducer, 5:1, 71 B5
	32Z010ES	Gear Reducer, 10:1, 71 B5
	32Z020ES	Gear Reducer, 20:1, 71 B5

# **Return Policy**

Returns must have prior written factory authorization or they will not be accepted. Items that are returned to Dorner without authorization will not be credited nor returned to the original sender. When calling for authorization, please have the following information ready for the Dorner factory representative or your local distributor:

- 1. Name and address of customer.
- 2. Dorner part number(s) of item(s) being returned.
- 3. Reason for return.
- 4. Customer's original order number used when ordering the item(s).
- 5. Dorner or distributor invoice number (if available, part serial number).

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization (RMA) number for reference. RMA will automatically close 30 days after being issued. To get credit, items must be new and undamaged. There will be a return charge on all items returned for credit, where Dorner was not at fault. It is the customer's responsibility to prevent damage during return shipping. Damaged or modified items will not be accepted. The customer is responsible for return freight.

	Product Type								
	Standard Products								Engineered to order parts
Product Line	Conveyors	Gearmotors & Mounting Packages	Support Stands	Accessories	Spare Parts (non-belt)	Spare Belts - Standard Flat Fabric	Spare Belts - Cleated & Specialty Fabric	Spare Belts - Plastic Chain	All equipment and parts
1100						•			
2200									
2200 Modular Belt									
2200 Precision Move									
2300									
2300 Modular Belt									
3200	30% return fee for all products except: 50% return fee for conveyors with modular belt, cleated belt or specialty belts						non-returnable		
3200 LPZ									case-by-case
3200 Precision Move									
4100									
5200									
5300									
6200									
Controls									
7200 / 7300	50% return fee for all products						1		
7350							•		•
7360	non-returnable								
7400									
7600									

Returns will not be accepted after 60 days from original invoice date. The return charge covers inspection, cleaning, disassembly, disposal and reissuing of components to inventory. If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

Dorner has representatives throughout the world. Contact Dorner for the name of your local representative. Our Customer Service Team will gladly help with your questions on Dorner products.

For a copy of Dorner's Warranty, contact factory, distributor, service center or visit our website at www.dorner.com.

For replacement parts, contact an authorized Dorner Service Center or the factory.



Dorner Mfg. Corp. reserves the right to change or discontinue products without notice. All products and services are covered in accordance with our standard warranty. All rights reserved. © Dorner Mfg. Corp. 2010 DORNER MFG. CORP.

975 Cottonwood Ave., PO Box 20 Hartland, WI 53029-0020 USA TEL 1-800-397-8664 (USA) FAX 1-800-369-2440 (USA) Internet: www.dorner.com

Outside the USA: TEL 1-262-367-7600 FAX 1-262-367-5827

Printed in U.S.A.