



## DURAMAX® DX "490" Rudder Bushings

[www.duramax-marine.com](http://www.duramax-marine.com)

By Duramax® Marine LLC

Effective: March 16, 2006

### Duramax® DX "490" Rudder Bushings

For rudder shaft applications 1.5" to 9.25", Duramax® Marine manufactures a hard rubber bushing.

DX "490" bushings are molded from a nitrile composition formulated to withstand the rugged "impact" service encountered in ship's rudder steering systems. They possess high rigidity for maximum stability, while still retaining a degree of resiliency required to dampen peak shock loads.

Duramax® bushings are molded with full length internal lubricant grooves. Grease, oil, or water serve equally well as lubricants. The Duramax® solid rubber bushing is resistant to deterioration by hydrocarbons, acids, salt water corrosion, and electrolysis.

### Code Number Breakdown

Order by part or code number.

Example 1: DX 250

DX = Duramax®

250 = approximate inside diameter

Part Number	Code Number	I.D.* Size	O.D. Size	Full Length	I.D. Across Water Grooves	Net Weight (Pounds)	Price Each U.S.\$
812100038	DX150	1.458	2.352	11.00	1.625	1.10	\$ 90.00
812100044	DX175	1.700	2.595	13.00	1.970	1.50	\$ 102.00
812100051	DX200	1.958	3.076	15.00	2.200	2.50	\$ 110.00
812100057	DX225	2.180	3.329	7.50	2.575	2.30	\$ 113.00
812100064	DX250	2.442	3.681	9.00	2.750	2.70	\$ 115.00
812100070	DX275	2.708	3.923	10.00	2.970	3.00	\$ 136.00
812100076	DX300	2.952	4.205	11.00	3.390	4.00	\$ 157.00
812100083	DX325	3.198	4.429	12.00	3.600	4.00	\$ 166.00
812100089	DX350	3.437	5.192	13.00	3.760	7.50	\$ 188.00
812100095	DX375	3.669	5.182	14.00	4.050	7.50	\$ 217.00
812100102	DX400	3.933	5.450	15.00	4.285	7.50	\$ 234.00
812100108	DX425	4.167	5.684	16.00	4.550	9.00	\$ 256.00
812100114	DX450	4.429	6.026	17.00	4.685	11.00	\$ 279.00
812100121	DX475	4.650	6.010	18.00	5.050	10.00	\$ 312.00
812100127	DX500	4.933	6.682	19.00	5.310	15.00	\$ 341.00
812100135	DX525	5.152	6.900	20.00	5.640	17.00	\$ 382.00
812100140	DX550	5.397	7.615	21.00	5.910	21.00	\$ 434.00
812100146	DX575	5.659	7.659	22.00	6.000	22.00	\$ 459.00
812100152	DX600	5.875	8.500	22.00	6.400	24.00	\$ 482.00
812100165	DX650	6.369	8.677	22.00	6.849	27.80	\$ 505.00
812100171	DX675	6.650	9.000	23.00	7.160	31.00	\$ 735.00

\*Note: Duramax® bushings are supplied with molded I.D. and O.D. dimensions which allow ample material for finish machining. However, the finish bore should not remove more than 70% of the lubricant groove depth. In addition to the press fit, Duramax® bushings must be mechanically secured with set screws. All dimensions are in inches



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Part Number	Code Number	I.D.* Size	O.D. Size	Full Length	I.D. Across Water Grooves	Net Weight (Pounds)	Price Each U.S.\$
812100178	DX700	6.882	9.084	24.50	7.350	31.00	\$ 811.00
812100184	DX725	7.100	10.470	27.50	7.600	38.00	\$ 979.00
812100191	DX750	7.335	10.470	27.50	8.070	35.00	\$ 1,013.00
812100197	DX775	7.700	10.470	27.50	8.300	45.00	\$ 1,326.00
812100203	DX800	7.828	10.560	29.50	8.500	50.00	\$ 1,563.00
812100216	DX850	8.370	12.200	35.00	9.090	65.00	\$ 1,663.00
812100222	DX875	8.640	11.320	32.50	9.115	58.00	\$ 1,708.00
812100229	DX900	8.890	11.320	32.50	9.490	73.00	\$ 1,838.00
812100235	DX925	9.110	12.225	35.00	9.720	85.00	\$ 1,968.00

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## Machining I.D. - O.D. Clearances & Allowances

To determine total I.D. Clearance, add tables X, Y and Z values.

To determine the total O.D., add tables Y and Z in the same column.

**Table X -Running Clearances**

Nominal I.D.	(inches) Allowance
2-inch	0.012
3-inch	0.013
4-inch	0.014
5-inch	0.015
6-inch	0.016
7-inch	0.017
8-inch	0.018
9-inch	0.019
10-inch	0.020
11-inch	0.021
12-inch	0.022
13-inch	0.023
14-inch	0.024

**Table Y - Thermal Factor**

Nominal I.D.	(inches) Allowance
2-inch	0.004
3-inch	0.006
4-inch	0.008
5-inch	0.010
6-inch	0.012
7-inch	0.014
8-inch	0.016
9-inch	0.018
10-inch	0.020
11-inch	0.022
12-inch	0.024
13-inch	0.026
14-inch	0.028

**Table Z**

Nominal I.D.	(inches) Allowance
2-inch	0.005
3-inch	0.005
4-inch	0.005
5-inch	0.005
6-inch	0.005
7-inch	0.008
8-inch	0.008
9-inch	0.008
10-inch	0.008
11-inch	0.010
12-inch	0.010
13-inch	0.010
14-inch	0.010

## Example

8-inch I.D. = 8.000" + .018" (X) + .016" (Y) = .008" (Z) = 8.042" I.D. Bore

12-inch O.D. = 12.000" + .016" (Y) + .008" (Z) = 12.024" O.D.

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All prices are in U.S. Dollars

All prices are FOB: Origin; Prices subject to change without notice.

Possession of this price list does not constitute an offer.

Duramax® Marine reserves the right to accept or reject any and all orders

Duramax® Marine reserves the right to change design or specifications

to improve the product or processing at any time without notice.

for standard warranty please visit [www.duramax-marine.com/terms&conditions&warranty](http://www.duramax-marine.com/terms&conditions&warranty)

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