

FAIRBANKS MORSE  
**DEFENSE**

 Welin Lambie

# Davit Systems Product Catalog

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[welinlambie.com](http://welinlambie.com)



# Davit Systems

# Product Catalog

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# Welin Lambie Overview

Originally traded as the Welin Davit & Engineering Co Ltd, the company was established in 1901 and operating as Welin Lambie Ltd since 1989. The Welin name is still associated with innovation quality and reliability with 90% of davit production exported word wide.

Welin Lambie davits are designed, engineered, and manufactured in the UK with components sourced from the UK, Europe, and the United States.

Welin Lambie's ISO 9001:2008 accreditation is both current and integrated into all facets of our design, engineering, and manufacturing. We are accredited under the ABS Approval Program and offer davit system and davit component under all other major international recognized approval authorities.

## FMD - Overview

Stacking the decks with best-in-class marine technologies and service solutions. Fairbanks Morse Defense has mastered that balance over more than a century, configuring the delivery of every customer engagement to meet the needs of the moment. We deliver an advantage to the U.S. Fleet with a growing array of best-in-class marine technologies, OEM parts, and turnkey services – all from a single, trusted source.



# Design, Engineering & Innovation

Welin Lambie's engineering provide all the design functions to support both our standard and special application davits. Using Auto Cad and Inventor we can provide the resources required to support the most complex requirements.

All davit testing is conducted in-house in a controlled environmental using calibrated testing equipment and purpose-built test beds.

Utilizing the benefits of a fully manned electronics department Welin can continually improve our products and offer innovative system enhancements. Developed for the fleet operator, the self-contained touch screen diagnostic systems allow the maintainer to check the "health" and performance of the davit from one location.



## Facilities Overview

The modern 2,200 sq. meter facility houses all of the administration, design, engineering, manufacturing and testing activities.



# Our Locations



- Service Centers
- Manufacturing Facilities
- International Service Partners

## Fairbanks Morse Defense

701 White Avenue  
Beloit, WI 53511  
Phone: 1-800-356-6955

[www.FairbanksMorseDefense.com](http://www.FairbanksMorseDefense.com)

## American Fan

Phone: 1-866-771-6266

## Federal Equipment Co.

Phone: 1-877-435-4723

## Hunt Valve Company

Phone: 1-800-321-2757

## Maxim Watermakers

Phone: 1-318-629-2460

## Research Tool & Die Works

Phone: 1-310-639-5722

## Ward Leonard

Phone: 1-860-283-5801

## Welin Lambie

Phone: +44 1384-78294



# **DEFENSE APPLICATION DAVITS**



# MILITARY DAVIT APPLICATIONS

Welin Lambie offers decades of experience to davit systems for military applications. Working every day with Combatant Vessels in the world's largest Navies, we know the meaning of "Meeting the Mission Requirements" and "Long Term Supportability".

Developing designs, providing the engineering, and bringing them to manufacture is our core business. We can accommodate designs for all types of craft including USV's.

The flexibility and versatility of davit and asset handing systems is playing an ever increasing role in faster smaller ships. Welin Lambie davits are available in many configurations and materials.



# ALL ELECTRIC DAVITS

The elimination of all hydraulic systems has become the requirement with many Navies for their combatant vessels. The davits below are in production and incorporate some of the very latest combatant ship requirements of all electric operation.

## UDTD (Under Deck Track Davit)

Designed and developed for the installation in a hull pocket, the UDTD provides all electric operation. The davit provides variable speed operation for both hoist / lower and traversing in/out board, falls tensioning is also provided. The davit is also equipped for manual operation.

The davit is supplied with EMI certification to MIL-STD- 461 E and electrical certification to MIL- STD- 1399.

Davit Type	SWL	Use	Operation
UDTD 3.2 A	3200 KG	7 – 8 M RHIB	Electric / Manual

# **TWPIV**

(Twin Arm Pivot Davit)

## **TWIN PIVOT TWIPV E**

The TWPIV "A" is a modular davit with all bolting interfaces that incorporates a number of performance enhancing features including mechanical arm falls tensioning and integrated boat stowage. This davit is SOLAS compliant.

The TWPIV "B" is a self-contained "Palletized" davit that is part of a rotatable pool of davit systems. Incorporating a number of performance enhancing features that include:

- Independent Falls Tensioning
- Integrated Boat Stowage
- Night Ops Flood Lighting
- Expandable Hook Centers

This davit is SOLAS compliant and is the primary davit of the United States Coast Guard.



Davit Type	SWL Range	Use	Operation
TWPIV A	5000 KG	7 M Workboat	Electric / Hydraulic / Manual
TWPIV B	5000 KG	7 – 8 M RHIB	Electric / Hydraulic / Manual

# **PIV SERIES** (Pivot Davit)

The PIV 3.6 E was developed from the existing PIV series of davits and provides a low weight system and incorporates both shock and EMI requirements.

The aluminum A frame construction incorporates many other weight saving attributes. Components have been selected from other proven Navy davit applications to meet the high duty cycle of mission requirements and the weight sensitivity of the combatant ship design needs.

The PIV 3.6 E davit is supplied with variable speed power hoist / lower and luffing and has adjustable falls tensioning. The modular davit has bolting interfaces for ease of installation and full manual operation for all principal operations. Included are integrated boat chocks and RHIB docking frame. Options include:

- Full Intergraded Diagnostic System
  - Release Hook
  - Davit Head Flood Lights for Night Ops

The PIV series offer a range of self-contained or modular davits that can incorporate optional performance enhancing features:

- Falls Tensioning
- Shock Absorber
- RIB Docking Frames
- Integrated Boat Stowage
- Davit Head Lighting
- Integrated Diagnostic / System Monitoring



The PIV series are fully approved systems designed for SOLAS 20° list and 10° trim conditions.

For weight sensitive applications PIV davits can be offered in aluminum.

Using high quality marine grade aluminum and stainless steel, the davit offers superior durability and low maintenance.

Davit Type	SWL	Operation
PIV 1.0 / 1.6	1000 – 1600 KG	Electric/Hydraulic/Manual
PIV 2.3	2300 KG	Electric/Hydraulic/Manual
PIV 3.0 / 4.0	3000 – 4000 KG	Electric/Hydraulic/Manual
PIV 3.6 E	3600 KG	Electric/Manual

# LUM

(Luffing Under Momentum)

Configured as a gantry type davit offering significant flexibility over other davits for multi-tasking requirements. The standard type: LUM is a modular davit with electric winches and hydraulic luffing.

The davit operations have variable speed hoist / lower/ luffing with independent falls tensioning.

The LUM offers multiple options that include:

- Single & Dual Point Operation
- Movable Hook Centers
- Multi-Level Boat Stowage
- Davit Diagnostic System with Flat Screen
- Release Hooks
- Night Ops Flood Lights



Davit Type	SWL Range	Multi Tasking	Operation
LUM 12 A	3000 - 12000KG	7 – 12 M RHIB(s)	Electric / Hydraulic
LUM 25 A	25000 KG	3 Types LCVP	Electric / Hydraulic

# FAO

## (Fixed Arm Outboard)

The FAO davit has been designed to be installed on Dock Landing and Amphibious Assault Vessels for the operation of RHIBs and other small boats. This is a fixed davit that stows the deployable assets over the side of the selected vessel.

The davit system has independent falls tensioning and can be operated as a single or dual point davit and is fitted with shock absorbers and boat stowage system.

This davit has completed EMI certification under MIL-SDT-461 E. Options for this system include:

- Davit Diagnostic System with Flat Screen
- Night Ops Flood Lights
- Release Hooks



# SARBE 22C

The SARBE series davit offers further variants including the "C" version that allows both the vertical post and winch to remain stationary whilst the arm rotates providing 360° operation.

This allows the davit to be placed closer to the deck edge and allows the operator to remain in the safety of the inboard position.

Davit Type	SWL	Radius(Fixed)	Operation
SARBE 22C	3175KG	3.2 to 5 M	Electric /Manual





# **COMMERCIAL DAVITS**



# SARBE 1.0 / 1.3A

The SARBE version has electric / hydraulic operation and is supplied with a self-contained power pack with accumulator. The standard winch is power hoist / gravity lower with power lower / hoist is available as an option.

Designed for 20° list and 10° trim conditions ABS certification is standard and other classification societies are available on request.



Davit Type	SWL	Radius(Fixed)
SARBE 1.0 A	1000KG	3.2 to 5 M
SARBE 1.3 A	1350KG	3.2 to 4.4 M

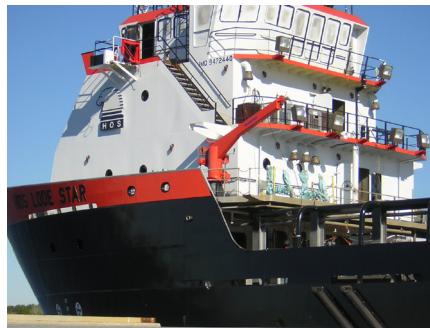
# SARBE 8A

The SARBE series offers a low installation impact and features both electric hoist with gravity lowering, power / hoist and power lower options. The slewing is by electric motor and / or manual operation.

Designed for 20° list and 10° trim conditions ABS certification as standard with other classifications societies available on request.

For weight sensitive applications like fast ferries the SARBE "F" version is available in aluminum construction. Using high quality marine grade aluminum and stainless steel offers superior durability.

Davit shown with optional ice protection Covers.



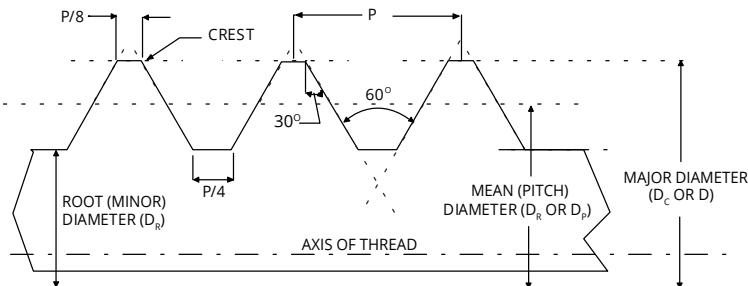
Davit Type	SWL	Radius(Fixed)	Operation
SARBE 8 A	1000KG	3.2 to 5 M	Electric/Manual
SARBE 8 A	1350KG	3.2 to 4.2 M	Electric/Manual
SARBE 8 A	1600 KG	3.2 to 4 M	Electric/Manual

# **RESOURCES**



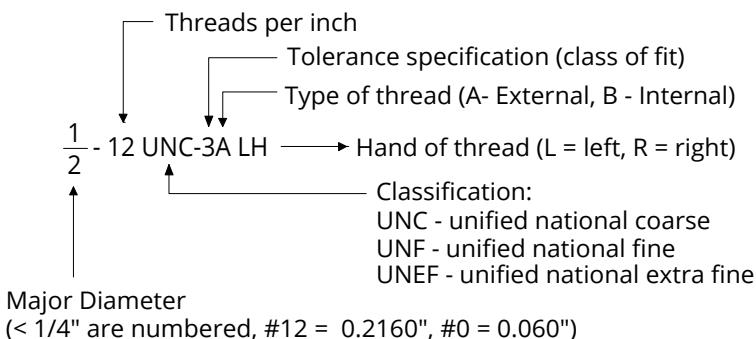
# THREAD STANDARDS

## UNIFIED AND ISO THREAD GEOMETRY

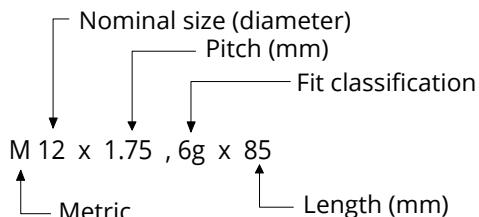


CLASS	UNIFIED		METRIC	
	EXTERNAL THREAD	INTERNAL THREAD	EXTERNAL THREAD	INTERNAL THREAD
LOOSE	1A	1B	8G	7H
STANDARD	2A	2B	6G	6H
CLOSE	3A	3B	4G	5H

### UNIFIED NATIONAL:



### METRIC:



# THREAD DIMENSIONS AND TAP DRILL SIZES

Size	Threads Per Inch		Outside Diameter Inches	Pitch Diameter Inches	Root Diameter Inches	Tap Drill Approx. 75% Full Thread	Decimal Equiv. Of Tap Drill
	NC UNC	NF UNF					
0	—	80	.0600	.0519	.0438	3/64"	.0469
1	64	—	.0730	.0629	.0527	.53	.0595
1	—	72	.0730	.0640	.0550	.53	.0595
2	56	—	.0860	.0744	.0628	.50	.0700
2	—	64	.0860	.0759	.0657	.50	.0700
3	48	—	.0990	.0855	.0719	.47	.0785
3	—	56	.0990	.0874	.0758	.46	.0810
4	40	—	.1120	.0958	.0795	.43	.0890
4	—	48	.1120	.0985	.0849	.42	.0935
5	40	—	.1250	.1088	.0925	.38	.1015
5	—	44	.1250	.1102	.0955	.37	.1040
6	32	—	.1380	.1177	.0974	.36	.1065
6	—	40	.1380	.1218	.1055	.33	.1130
8	32	—	.1640	.1437	.1234	.29	.1360
8	—	36	.1640	.1460	.1279	.29	.1360
10	24	—	.1900	.1629	.1359	.26	.1470
10	—	32	.1900	.1697	.1494	.21	.1590
12	24	—	.2160	.1889	.1619	.16	.1770
12	—	28	.2160	.1928	.1696	.15	.1800
1/4"	20	—	.2500	.2175	.1850	.7	.2010
1/4"	—	28	.2500	.2268	.2036	.3	.2130
5/16"	18	—	.3125	.2764	.2403	F	.2570
5/16"	—	24	.3125	.2854	.2584	I	.2720
3/8"	16	—	.3750	.3344	.2938	5/16"	.3125
3/8"	—	24	.3750	.3479	.3209	Q	.3320
7/16"	14	—	.4375	.3911	.3447	U	.3680
7/16"	—	20	.4375	.4050	.3726	25/64"	.3906
1/2"	13	—	.5000	.4500	.4001	27/64"	.4219
1/2"	—	20	.5000	.4675	.4351	29/64"	.4531
9/16"	12	—	.5625	.5084	.4542	31/64"	.4844
9/16"	—	18	.5625	.5264	.4903	33/64"	.5156
5/8"	11	—	.6250	.5660	.5069	17/32"	.5312
5/8"	—	18	.6250	.5889	.5528	37/64"	.5781
3/4"	10	—	.7500	.6850	.6201	21/32"	.6562
3/4"	—	16	.7500	.7094	.6688	11/16"	.6875
7/8"	9	—	.8750	.8028	.7307	49/64"	.7656
7/8"	—	14	.8750	.8286	.7822	13/16"	.8125
1"	8	—	1.0000	.9188	.8376	7/8"	.8750
1"	—	12	1.0000	.9459	.8917	59/64"	.9219
1 1/8"	7	—	1.1250	1.0322	.9394	63/64"	.9844
1 1/8"	—	12	1.1250	1.0709	1.0168	1 3/64"	1.0469
1 1/4"	7	—	1.2500	1.1572	1.0644	1 7/64"	1.1094
1 1/4"	—	12	1.2500	1.1959	1.1418	1 11/64"	1.1719
1 3/8"	6	—	1.3750	1.2667	1.1585	1 7/32"	1.2187
1 3/8"	—	12	1.3750	1.3209	1.2668	1 19/64"	1.2969
1 1/2"	6	—	1.5000	1.3917	1.2835	1 11/32"	1.3437
1 1/2"	—	12	1.5000	1.4459	1.3918	1 27/64"	1.4219
1 3/4"	5	—	1.7500	1.6201	1.4902	1 9/16"	1.5625
2"	4 1/2	—	2.0000	1.8557	1.7113	1 25/32"	1.7812
2 1/4"	4 1/2	—	2.2500	2.1057	1.9613	2 1/32"	2.0313
2 1/2"	4 1/2	—	2.5000	2.3376	2.1752	2 1/4"	2.2500
2 3/4"	4	—	2.7500	2.5876	2.4252	2 1/2"	2.5000
3"	4	—	3.0000	2.8376	2.6752	2 3/4"	2.7500
3 1/4"	4	—	3.2500	3.0876	2.9252	3"	3.0000
3 1/2"	4	—	3.5000	3.3376	3.1752	3 1/4"	3.2500
3 3/4"	4	—	3.7500	3.5876	3.4252	3 1/2"	3.5000
4"	4	—	4.0000	3.3786	3.6752	3 3/4"	3.7500

# PIPE DIMENSIONS

## US AND METRIC

NOMINAL PIPE SIZE	OD	SCHEDULE DESIGNATIONS		WALL THICKNESS		WEIGHT		ID	
		IN.	MM	ASME	IN.	MM	LBS/ FOOT	KG/ METER	IN.
1/8	0.405	10	105	0.049	1.24	0.19	0.28	0.307	7.82
6	10.3	STD 40	405	0.068	1.73	0.24	0.37	0.269	6.84
		XS 80	805	0.095	2.41	0.31	0.47	0.215	5.84
1/4	0.540	10	105	0.065	1.65	0.33	0.49	0.410	10.40
8	13.7	STD 40	405	0.088	2.24	0.43	0.63	0.364	9.22
		XS 80	805	0.119	3.02	0.54	0.80	0.302	7.66
3/8	0.675	10	105	0.065	1.65	0.42	0.63	0.545	13.80
10	17.1	STD 40	405	0.091	2.31	0.57	0.84	0.493	12.48
		XS 80	805	0.126	3.20	0.74	1.10	0.423	10.70
1/2	0.840	5	55	0.065	1.65	0.54	0.80	0.710	18.00
15	21.3	10	105	0.083	2.11	0.67	1.00	0.674	17.08
		STD 40	405	0.109	2.77	0.85	1.27	0.622	15.76
		XS 80	805	0.147	3.73	1.09	1.62	0.546	13.84
		160		0.188	4.78	1.31	1.95	0.464	11.74
		XX		0.294	7.47	1.72	2.55	0.252	6.36
3/4	1.050	5	55	0.065	1.65	0.69	1.03	0.920	23.40
20	26.7	10	105	0.083	2.11	0.86	1.28	0.884	22.48
		STD 40	405	0.113	2.87	1.13	1.69	0.824	20.96
		XS 80	805	0.154	3.91	1.48	2.20	0.742	18.88
		160		0.219	5.56	1.95	2.90	0.612	15.58
		XX		0.308	7.82	2.44	3.64	0.434	11.06
1	1.315	5	55	0.065	1.65	0.87	1.29	1.185	30.10
25	33.4	10	105	0.109	2.77	1.41	2.09	1.097	27.86
		STD 40	405	0.133	3.38	1.68	2.50	1.049	26.64
		XS 80	805	0.179	4.55	2.17	3.24	0.957	24.30
		160		0.250	6.35	2.85	4.24	0.815	20.70
		XX		0.358	9.09	3.66	5.45	0.599	15.22
1-1/4	1.660	5	55	0.065	1.65	1.11	1.65	1.530	38.90
32	42.2	10	105	0.109	2.77	1.81	2.69	1.442	36.66
		STD 40	405	0.140	3.56	2.27	3.39	1.380	35.08
		XS 80	805	0.191	4.85	3.00	4.47	1.278	32.50
		160		0.250	6.35	3.77	5.61	1.160	29.50
		XX		0.382	9.70	5.22	7.77	0.896	22.80
1-1/2	1.900	5	55	0.065	1.65	1.28	1.90	1.770	45.00
40	48.3	10	105	0.109	2.77	2.09	3.11	1.682	42.76
		STD 40	405	0.145	3.68	2.72	4.05	1.610	40.94
		XS 80	805	0.200	5.08	3.63	5.41	1.500	38.14
		160		0.281	7.14	4.86	7.25	1.338	34.02
		XX		0.400	10.15	6.41	9.55	1.100	28.00
2	2.375	5	55	0.065	1.65	1.61	2.39	2.245	57.00
50	60.3	10	105	0.109	2.77	2.64	3.93	2.157	54.76
		STD 40	405	0.154	3.91	3.66	5.44	2.067	52.48
		XS 80	805	0.218	5.54	5.03	7.48	1.939	49.22
		160		0.344	8.74	7.47	11.11	1.687	42.82
		XX		0.436	11.07	9.04	13.44	1.503	38.16
2-1/2	2.875	5	55	0.083	2.11	2.48	3.69	2.709	68.78
65	73.0	10	105	0.120	3.05	3.53	5.26	2.635	66.90
		STD 40	405	0.203	5.16	5.80	8.63	2.469	62.68
		XS 80	805	0.276	7.01	7.67	11.41	2.323	58.98
		160		0.375	9.53	10.02	14.92	2.125	53.94
		XX		0.552	14.02	13.71	20.39	1.771	44.96
3	3.500	5	55	0.083	2.11	3.03	4.52	3.334	84.68
80	88.9	10	105	0.120	3.05	4.34	6.46	3.260	82.80
		STD 40	405	0.216	5.49	7.58	11.29	3.068	77.92
		XS 80	805	0.300	7.62	10.26	15.27	2.900	73.66
		160		0.438	11.13	14.34	21.35	2.624	66.64
		XX		0.600	15.24	18.60	27.68	2.300	58.42
3-1/2	4.000	5	55	0.083	2.11	3.48	5.18	3.834	97.38
90	101.6	10	105	0.120	3.05	4.98	7.41	3.760	95.50
		STD 40	405	0.226	5.74	9.12	13.57	3.548	90.12
		XS 80	805	0.318	8.08	12.52	18.64	3.364	85.44
		XX		0.636	16.15	22.87	34.03	2.728	69.30
4	4.500	5	55	0.083	2.11	3.92	5.84	4.334	110.08
100	114.3	10	105	0.120	3.05	5.62	8.37	4.260	108.20
				0.156	3.96	7.24	10.78	4.188	106.38
				0.188	4.78	8.67	12.91	4.124	104.74
		STD 40	405	0.237	6.02	10.80	16.08	4.026	102.26
		XS 80	805	0.337	8.56	15.00	22.32	3.826	97.18
		120		0.438	11.13	19.02	28.32	3.624	92.04
		160		0.531	13.49	22.53	33.54	3.438	87.32
		XX		0.674	17.12	27.57	41.03	3.152	80.06
4-1/2	5.000	STD 40	405	0.247	6.27	12.55	18.67	4.506	114.46
115	127.0	XS 80	805	0.355	9.02	17.63	26.24	4.290	108.96
		XX		0.710	18.03	32.56	48.45	3.580	90.94

# AMERICAN WIRE GAUGE

## CONDUCTOR SIZE TABLE

AWG	Diameter [inches]	Diameter [mm]	Area [mm <sup>2</sup> ]	Resistance [Ohms/1000 ft]	Resistance [Ohms / km]	Max Current [Amperes]	Max Frequency
0000 (4/0)	0.46	11.684	107	0.049	0.16072	302	125 Hz
000 (3/0)	0.4096	10.40384	85	0.0618	0.202704	239	160 Hz
00 (2/0)	0.3648	9.26592	67.4	0.0779	0.255512	190	200 Hz
0 (1/0)	0.3249	8.25246	53.5	0.0983	0.322424	150	250 Hz
1	0.2893	7.34822	42.4	0.1239	0.406392	119	325 Hz
2	0.2576	6.54304	33.6	0.1563	0.512664	94	410 Hz
3	0.2294	5.82676	26.7	0.197	0.64616	75	500 Hz
4	0.2043	5.18922	21.2	0.2485	0.81508	60	650 Hz
5	0.1819	4.62026	16.8	0.3133	1.027624	47	810 Hz
6	0.162	4.1148	13.3	0.3951	1.295928	37	1100 Hz
7	0.1443	3.66522	10.5	0.4982	1.634096	30	1300 Hz
8	0.1285	3.2639	8.37	0.6282	2.060496	24	1650 Hz
9	0.1144	2.90576	6.63	0.7921	2.598088	19	2050 Hz
10	0.1019	2.58826	5.26	0.9989	3.276392	15	2600 Hz
11	0.0907	2.30378	4.17	1.26	4.1328	12	3200 Hz
12	0.0808	2.05232	3.31	1.588	5.20864	9.3	4150 Hz
13	0.072	1.8288	2.62	2.003	6.56984	7.4	5300 Hz
14	0.0641	1.62814	2.08	2.525	8.282	5.9	6700 Hz
15	0.0571	1.45034	1.65	3.184	10.44352	4.7	8250 Hz
16	0.0508	1.29032	1.31	4.016	13.17248	3.7	11 kHz
17	0.0453	1.15062	1.04	5.064	16.60992	2.9	13 kHz
18	0.0403	1.02362	0.823	6.385	20.9428	2.3	17 kHz
19	0.0359	0.91186	0.653	8.051	26.40728	1.8	21 kHz
20	0.032	0.8128	0.518	10.15	33.292	1.5	27 kHz
21	0.0285	0.7239	0.41	12.8	41.984	1.2	33 kHz
22	0.0254	0.64516	0.326	16.14	52.9392	0.92	42 kHz
23	0.0226	0.57404	0.258	20.36	66.7808	0.729	53 kHz
24	0.0201	0.51054	0.205	25.67	84.1976	0.577	68 kHz
25	0.0179	0.45466	0.162	32.37	106.1736	0.457	85 kHz
26	0.0159	0.40386	0.129	40.81	133.8568	0.361	107 kHz
27	0.0142	0.36068	0.102	51.47	168.8216	0.288	130 kHz
28	0.0126	0.32004	0.081	64.9	212.872	0.226	170 kHz
29	0.0113	0.28702	0.0642	81.83	268.4024	0.182	210 kHz
30	0.01	0.254	0.0509	103.2	338.496	0.142	270 kHz
31	0.0089	0.22606	0.0404	130.1	426.728	0.113	340 kHz
32	0.008	0.2032	0.032	164.1	538.248	0.091	430 kHz
33	0.0071	0.18034	0.0254	206.9	678.632	0.072	540 kHz
34	0.0063	0.16002	0.0201	260.9	855.752	0.056	690 kHz
35	0.0056	0.14224	0.016	329	1079.12	0.044	870 kHz
36	0.005	0.127	0.0127	414.8	1360	0.035	1100 kHz
37	0.0045	0.1143	0.01	523.1	1715	0.0289	1350 kHz
38	0.004	0.1016	0.00797	659.6	2163	0.0228	1750 kHz
39	0.0035	0.0889	0.00632	831.8	2728	0.0175	2250 kHz
40	0.0031	0.07874	0.00501	1049	3440	0.0137	2900 kHz

**Current (ampacity) Notes:** The current ratings shown in the table are for power transmission and have been determined using the rule of 1 amp per 700 circular mils, which is a very conservative rating.

# FRACTION - DECIMAL

## CONVERSION CHART

	IN	MM		IN	MM
$\frac{1}{64}$	.015625	.3969	$\frac{33}{64}$	.515625	13.096
$\frac{1}{32}$	.03125	.7938	$\frac{17}{32}$	.53125	13.493
$\frac{3}{64}$	.046875	1.1906	$\frac{35}{64}$	.546875	13.890
$\frac{1}{16}$	.0625	1.5875	$\frac{9}{16}$	.5625	14.287
$\frac{5}{64}$	.078125	1.9844	$\frac{37}{64}$	.578125	14.684
$\frac{3}{32}$	.09375	2.3813	$\frac{19}{32}$	.59375	15.081
$\frac{7}{64}$	.109375	2.7781	$\frac{39}{64}$	.609375	15.478
$\frac{1}{8}$	.125	3.1750	$\frac{5}{8}$	.625	15.875
$\frac{9}{64}$	.140625	3.5719	$\frac{41}{64}$	.640625	16.271
$\frac{5}{32}$	.15625	3.9688	$\frac{21}{32}$	.65625	16.668
$\frac{11}{64}$	.171875	4.3656	$\frac{43}{64}$	.671875	17.065
$\frac{3}{16}$	.1875	4.7625	$\frac{11}{16}$	.6875	17.462
$\frac{13}{64}$	.203125	5.1594	$\frac{45}{64}$	.703125	17.859
$\frac{7}{32}$	.21875	5.5563	$\frac{23}{32}$	.71875	18.256
$\frac{15}{64}$	.234375	5.9531	$\frac{47}{64}$	.734375	18.653
$\frac{1}{4}$	.250	6.3500	$\frac{3}{4}$	.750	19.050
$\frac{17}{64}$	.265625	6.7469	$\frac{49}{64}$	.765625	19.447
$\frac{9}{32}$	.28125	7.1438	$\frac{25}{32}$	.78125	19.843
$\frac{19}{64}$	.296875	7.5406	$\frac{51}{64}$	.796875	20.240
$\frac{5}{16}$	.3125	7.9375	$\frac{13}{16}$	.8125	20.6375
$\frac{21}{64}$	.328125	8.3344	$\frac{53}{64}$	.828125	21.0345
$\frac{11}{32}$	.34375	8.7313	$\frac{27}{32}$	.84375	21.431
$\frac{23}{64}$	.359375	9.1282	$\frac{55}{64}$	.859375	21.8282
$\frac{3}{8}$	.375	9.5250	$\frac{7}{8}$	.875	22.2251
$\frac{25}{64}$	.390625	9.9219	$\frac{57}{64}$	.890625	22.6220
$\frac{13}{32}$	.40625	10.3188	$\frac{29}{32}$	.90625	23.0188
$\frac{27}{64}$	.421875	10.7157	$\frac{59}{64}$	.921875	23.4157
$\frac{7}{16}$	.4375	11.1125	$\frac{15}{16}$	.9375	23.8126
$\frac{29}{64}$	.453125	11.5094	$\frac{61}{64}$	.953125	24.2095
$\frac{15}{32}$	.46875	11.9063	$\frac{31}{32}$	.96875	24.6063
$\frac{31}{64}$	.484375	12.3032	$\frac{63}{64}$	.984375	25.0032
$\frac{1}{2}$	.500	12.7001	1	1.000	25.4001

# SHEET METAL

## GAUGE CHART

Gauge	Steel in (mm)	Galvanized Steel in (mm)	Stainless Steel in (mm)	Aluminium in (mm)	Electrical Steel in (mm)
3	0.2391 (6.07)	—	—	—	—
4	0.2242 (5.69)	—	—	—	—
5	0.2092 (5.31)	—	—	—	—
6	0.1943 (4.94)	—	—	0.162 (4.1)	—
7	0.1793 (4.55)	—	0.1875 (4.76)	0.1443 (3.67)	—
8	0.1644 (4.18)	0.1681 (4.27)	0.1719 (4.37)	0.1285 (3.26)	—
9	0.1495 (3.80)	0.1532 (3.89)	0.1563 (3.97)	0.1144 (2.91)	—
10	0.1345 (3.42)	0.1382 (3.51)	0.1406 (3.57)	0.1019 (2.59)	—
11	0.1196 (3.04)	0.1233 (3.13)	0.1250 (3.18)	0.0907 (2.30)	—
12	0.1046 (2.66)	0.1084 (2.75)	0.1094 (2.78)	0.0808 (2.05)	—
13	0.0897 (2.28)	0.0934 (2.37)	0.094 (2.4)	0.072 (1.8)	—
14	0.0747 (1.90)	0.0785 (1.99)	0.0781 (1.98)	0.0641 (1.63)	—
15	0.0673 (1.71)	0.0710 (1.80)	0.07 (1.8)	0.057 (1.4)	—
16	0.0598 (1.52)	0.0635 (1.61)	0.0625 (1.59)	0.0508 (1.29)	0.0625 (1.59)
17	0.0538 (1.37)	0.0575 (1.46)	0.056 (1.4)	0.045 (1.1)	0.0560 (1.42)
18	0.0478 (1.21)	0.0516 (1.31)	0.0500 (1.27)	0.0403 (1.02)	0.0500 (1.27)
19	0.0418 (1.06)	0.0456 (1.16)	0.044 (1.1)	0.036 (0.91)	0.0453 (1.15)
20	0.0359 (0.91)	0.0396 (1.01)	0.0375 (0.95)	0.0320 (0.81)	0.0375 (0.952)
21	0.0329 (0.84)	0.0366 (0.93)	0.034 (0.86)	0.028 (0.71)	0.0340 (0.860)
22	0.0299 (0.76)	0.0336 (0.85)	0.031 (0.79)	0.025 (0.64)	0.0310 (0.787)
23	0.0269 (0.68)	0.0306 (0.78)	0.028 (0.71)	0.023 (0.58)	0.0280 (0.711)
24	0.0239 (0.61)	0.0276 (0.70)	0.025 (0.64)	0.02 (0.51)	0.0250 (0.635)
25	0.0209 (0.53)	0.0247 (0.63)	0.022 (0.56)	0.018 (0.46)	0.0220 (0.559)
26	0.0179 (0.45)	0.0217 (0.55)	0.019 (0.48)	0.017 (0.43)	0.0185 (0.470)
27	0.0164 (0.42)	0.0202 (0.51)	0.017 (0.43)	0.014 (0.36)	0.0170 (0.432)
28	0.0149 (0.38)	0.0187 (0.47)	0.016 (0.41)	0.0126 (0.32)	0.0155 (0.394)
29	0.0135 (0.34)	0.0172 (0.44)	0.014 (0.36)	0.0113 (0.29)	0.0140 (0.356)
30	0.0120 (0.30)	0.0157 (0.40)	0.013 (0.33)	0.0100 (0.25)	0.0125 (0.318)
31	0.0105 (0.27)	0.0142 (0.36)	0.011 (0.28)	0.0089 (0.23)	0.0100 (0.254)
32	0.0097 (0.25)	—	—	—	—
33	0.0090 (0.23)	—	—	—	—
34	0.0082 (0.21)	—	—	—	—
35	0.0075 (0.19)	—	—	—	—
36	0.0067 (0.17)	—	—	—	—
37	0.0064 (0.16)	—	—	—	—
38	0.0060 (0.15)	—	—	—	—
33	0.0071	0.18034	0.0254	206.9	678.632
34	0.0063	0.16002	0.0201	260.9	855.752
35	0.0056	0.14224	0.016	329	1079.12
36	0.005	0.127	0.0127	414.8	1360
37	0.0045	0.1143	0.01	523.1	1715
38	0.004	0.1016	0.00797	659.6	2163
39	0.0035	0.0889	0.00632	831.8	2728
40	0.0031	0.07874	0.00501	1049	3440





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