

HANDLING AND LIFTING MVT's

This document is specifically written to describe the procedure to handle and lift WEG's Medium Voltage Renewables Transformers (MVT).

The information contained in this document is subject to change without notice. This document is not intended as a substitute for proper training or adequate experience concerning the safe operation of the process described; hence this is the sole responsibility of the user or the installer or purchaser of the transformer.

Only a **competent technician** who are familiar with the transformer should install, operate, and service the transformer.

A **competent technician** must have the following qualifications:

- Thoroughly familiar with the instructions as given in the instruction manual.
- Fully trained in industry-accepted high and low-voltage operating practices and safety procedures.
- Trained and authorized/certified to energize, de-energize, clear, and ground the transformer.
- Well versed in the use and care of personal protective equipment (PPE) such as arc flash clothing, safety glasses, face shield, hard hat, rubber gloves, clamp-stick, hot-stick, etc. as prescribed by OSHA or any other national standards applicable to the transformer.

Please read the instruction manual for a proper understanding of the installation, operation and maintenance for the transformer.

For the sole purpose of safe installation and operation of the transformer, the operator must read and understand all cautions and warnings labels as included in the instruction manual.

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Handling



For unloading, lifting hooks are provided near the top of the transformer tank. When slings are being used to lift the MVT's, the sling pull angles should **not be over 30°** from the vertical axis - refer to left side picture (red reference line; vertical axis).

Spreaders bars can be used to help attain this angle and to

hold the lifting slings apart from each other to avoid any bending of the tank structure thus avoiding leaks and extreme stress on the lifting hooks. The method of lifting with a spreader bar is outline in the manual located in the compartment of the MVT.

Lifting with super slings

When making use of slings, the below chart shall be used in function of the MVT name plate weight and in accordance with OSHA.

Code	Color	Vertical 90°	Choke 120°	Basket				Appr Dia	Appr Weight	Min Pin Dia	Min Pin Dia	Min Length
				90°	60°	45°	30°					
		lbs	lbs	lbs	lbs	lbs	lbs	(in)	lbs/ft	Vertical	Basket	(in)
SL-30	PURPLE	3,000	2,400	6,000	5,200	4,200	3,000	0.75	0.25	0.50	0.63	18
SL-40	BLACK	4,000	3,200	8,000	6,900	5,700	4,000	0.80	0.35	0.50	0.63	18
SL-60	GREEN	6,000	4,800	12,000	10,400	8,500	6,000	0.90	0.40	0.63	0.88	18
SL-90	YELLOW	9,000	7,200	18,000	15,600	12,700	9,000	1.00	0.50	0.75	1.00	24
SL-120	TAN	12,000	9,600	24,000	20,800	17,000	12,000	1.25	0.75	0.88	1.25	24
SL-140	RED	14,000	11,200	28,000	24,200	19,800	14,000	1.30	0.85	1.00	1.38	30
SL-170	ORANGE	17,000	13,600	34,000	29,400	24,000	17,000	1.60	0.95	1.13	1.63	36
SL-230	BLUE	23,000	18,400	46,000	39,800	32,500	23,000	1.65	1.25	1.25	1.75	48
SL-260	ORANGE	26,000	20,800	52,000	45,000	36,800	26,000	1.75	1.45	1.38	1.88	48
SL-320	GREY	32,000	25,600	64,000	55,400	45,200	32,000	2.15	1.75	1.50	2.00	48
SL-400	ORANGE	40,000	32,000	80,000	69,300	56,600	40,000	2.45	2.25	1.63	2.38	48
SL-540	BROWN	54,000	43,200	108,000	93,500	76,400	54,000	3.00	2.75	1.88	2.75	48
SL-680	OLIVE	68,000	54,400	136,000	117,800	96,200	68,000	3.25	3.60	2.13	3.00	60
SL-900	BLACK	90,000	72,000	180,000	155,900	127,300	90,000	3.75	4.10	2.50	3.50	60

WARNING!

NEVER EXCEED THE WORKING LOAD LIMIT.

ALWAYS CHECK THE IDENTIFICATION TAG TO DETERMINE IF THE SLINGS RATED CAPACITY IS APPROPRIATE FOR THE LIFT. RATINGS LISTED ARE VALID FOR NEW SLINGS ONLY. ALWAYS INSPECT THE SLING BEFORE USE.

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Important notes

The below important notes are to be observed:

1. Each lifting device must be inspected before use. Never use a damaged lifting device. If the lifting device were to break while in use this could end-up dropping the load; this could cause injuries, or fatalities in the work place, and could lead to damages to the transformer. Make sure you always check your lifting device before use.
2. Make sure you have chosen the right lifting device for the job – refer to the above table. There are 2 types of lifting slings, round slings and webbing slings. Webbing slings have a larger surface area to help protect the load, whereas round slings offer flexibility.
3. Do not exceed the working load limit of the lifting device. To determine which lifting device you will need to know the weight of the load that you are lifting, please verify weight on transformers name plate.
4. Ensure the load is secured.
5. All lifting devices must be securely attached to the load in a manner that provides maximum control, and prevents any slipping, sliding and movement of any loose parts of the load. When attaching the lifting device, it is important that a train individual determines the most appropriate method of rigging. Make sure the lifting point is directly above the center of gravity of the transformers. When lifting a heavy load, it is important that you have determined the center of gravity before you begin lifting. Determining the center of gravity is vital to achieving total control over the load that you are lifting. If the load isn't restrained correctly, the center of gravity will move directly under the lifting point, this could cause the load to swing, which could lead to the load being damaged or cause injury to other workers. Lifting hooks provided on the transformer will **ensure the here fore mentioned is provided equal length slings are used accordingly.**

Warning

Do not attempt to lift the MVT by placing a continuous loop of cable or chain around the unit or lifting hooks. Improper handling can result in death, severe personal injury and equipment damage.

If the MVT cannot be lifted by crane, it may be skidded or moved with rollers. When jacking a MVT to insert rollers underneath it, insure that at least two jacks are used and that two adjacent corners are raised simultaneously and evenly to avoid warping the base. Jacks may be placed only at the dedicated jack corners of the transformer base.

Do not place jacks under radiators or fin assemblies or any other part of the MVT. When using rollers, use as many as necessary to distribute the weight uniformly under the transformer. To pull, attach pulling eyes to the holes in the base at either end of the transformer.

Do not attach pulling lines to moldings or other sheet metal parts of the MVT such as cabinets or valves.

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In case of doubt always contact factory or visit the our web at www.weg.us



NOT READING AND COMPLYING WITH ALL SAFETY INFORMATION, INSTRUCTIONS AND WARNINGS LABELS THROUGHOUT THE INSTRUCTION MANUAL BEFORE ATTEMPTING ANY INSTALLATION, OPERATION, OR MAINTENANCE ACTIVITIES MAY LEAD TO DANGEROUS SITUATIONS. IN CASE OF DOUBT CONTACT WEG:



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