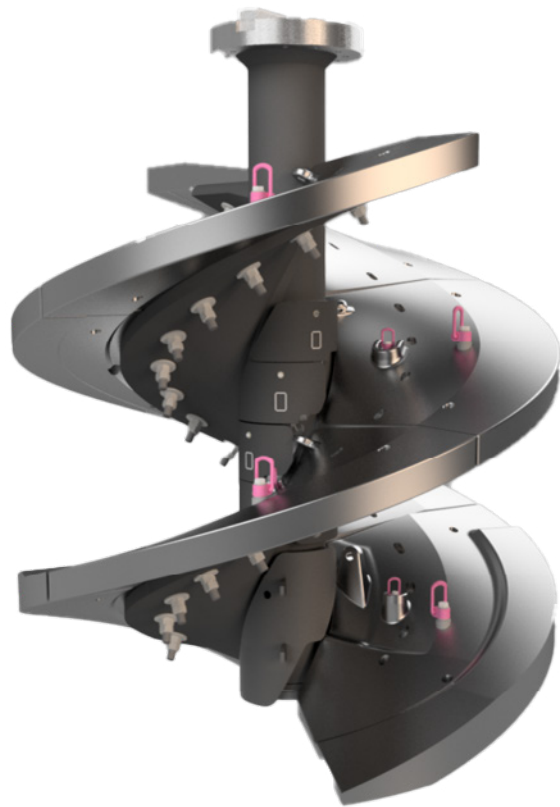


# Metso

Stirred milling solutions

## Vertimill® wear parts solutions



Application

We provide the complete range of Metso Vertimill® wear parts. Parts supplied include screw liners, wear caps, Orebed™ liners and attachment hardware.

The complete Metso Vertimill® lining solution provides a long and predictable wear life to keep your mill up and running.

#### Protect your mill

Metso Vertimill® is available in many different sizes and for different applications. To protect your mill and optimize grinding efficiency, Metso offers a complete range of wear parts. All parts have been specially developed for each type of Vertimill®.

#### Screw liners with a perfect fit

The Vertimill® screw is protected by cast liners in carefully selected wear-resistant alloys. There are two types of screw liners: end liners at the lower end of the screw (always two parts per mill) and wear liners.

We design your Vertimill® and own the original machine drawings, including dimensions and tolerances, so our parts are always custom-made to your machine.

#### Safer installation

Additional lifting points make installation safer and faster.

#### Rubber pads

Some newer screw shafts are lined with polyurea instead of rubber and need to be fitted with rubber pads between the screw shaft flights and cast liners. A few models are fitted with rubber pads to ensure perfect fit.

#### Shaft protection

The wear cap and shaft liners protect the screw shaft against wear and helps to avoid future expenses with palliative repairs, major refurbishments or even with a replacement screw shaft.

#### Safer installation

Additional lifting points make installation safer and faster.

#### Long-lasting wear life with Orebed™

The inside body and door of your Vertimill® are protected by Orebed™ linings. Orebed™ consists of a series of powerful magnets embedded in rubber. The ferromagnetic material in the mill load forms a layer that protects the lining.

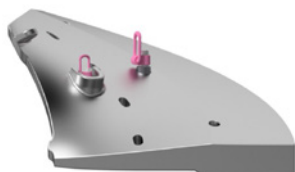
### Benefits

- Increased uptime
- Enhanced safety
- Higher reliability
- Lower maintenance costs
- Higher energy efficiency
- Full support

Read more at  
[metso.com/products-and-services/parts/wear-parts-for-stirred-mills](https://metso.com/products-and-services/parts/wear-parts-for-stirred-mills)

# Vertimill® liner lifting solutions

Metso lifting tools and lugs are available in several different designs to fit all Vertimill® models. We are happy to help you choose the right parts for your specific mill.



## Focus on safety

New liner models for VTM-800-WB to VTM-4500-C feature two embedded lifting points: one for new liner condition at the center of gravity to ensure the liner is positioned at the proper screw incline for safe and fast installation, and another one closer to the inner radius of the liner, which serves for safe worn liner removal.



## Recommendations

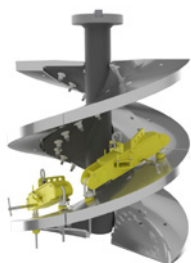
Metso recommends the use of proper lifting lugs with the following features:

- 360-degree rotation around the thread
- 180-degree bracket rotation
- Work loading limit (WLL) in all lifting directions
- Lifting safety factor 4:1



## Save time

Newer Vertimill® liners from 125-WB/150 LS to 650-WB have only one lifting point at the center of gravity to serve both the installation of new liners and the removal of worn ones. The lifting point is protected by cast lips and a bolt installed at the threaded insert after installation in the mill.



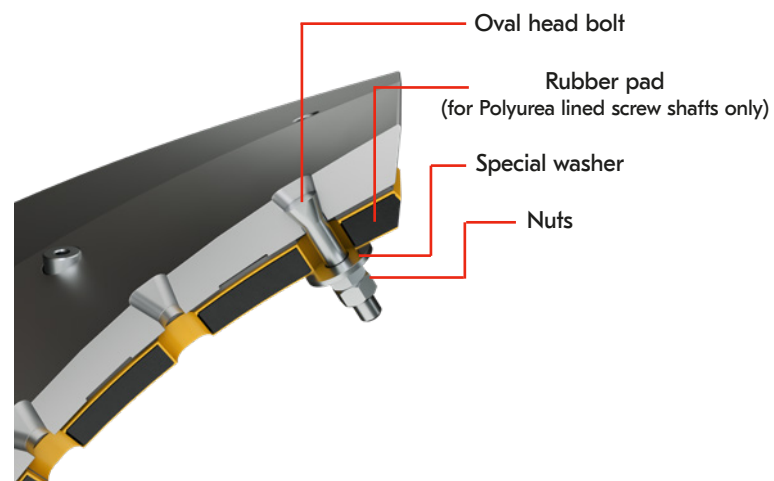
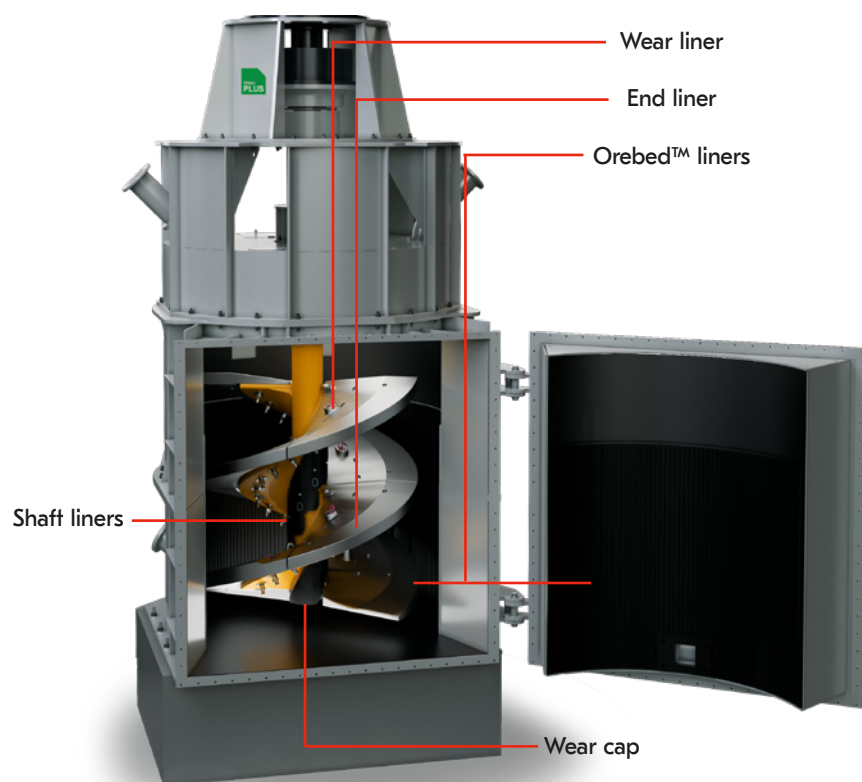
## Liner lifting tool

Metso designed a tool to improve safety and reduce liner replacement time for all Vertimill® customers. The attachment is designed to maintain the liner's center of gravity during removal and replacement, eliminating the need for chains, slings and shackles traditionally used for lifting.

Part	Model	Part no.	Part	Model	Part no.	
Lifting tool	VTM-3000-WB VTM-4500-C	ZX11338260	Lifting lug	VTM-250/300-WB VTM-300/350-W VTM-300-LS	AX02-100193397	
		ZX11337800			AX02-100193399	
	VTM-1500-WB VGX-1850	ZX11341490			VTM-150/200-WB VTM-200/250-W VTM-200/250-LS	AX02-100193400
		ZX11341277				AX02-100193401
	VTM-1250-WB VGX-1500	ZX11572173			VTM-125-WB VTM-150-W VTM-150-LS	AX02-100193402
	VTM-1000-WB VTM-1250-W VGX-1250	ZX11373039				AX03-100054204
	VTM-800-WB VTM-900-W	AX03-100044746		VTM-20-WB VTM-30-W VTM-30-LS	AX02-100188763	
		AX03-100046137			AX02-100190448	
	VTM-650-WB VTM-800-W	AX02-100193395		M48	ZX12010226	
		AX02-100193396			ZX12085881	
VTM-500-WB VTM-650-W	AX03-100043421	M36	ZX12085880			
	AX03-100043458		ZX11914276			
VTM-400-WB VTM-400-LS VTM-500-W	AX02-100188055	M24	ZX12077053			
	AX02-100188083					

# Vertimill® parts list

We provide wear parts for the complete range of Metso Vertimills®. Supplied parts include wear liners, end liners, attachment hardware and rubber pads.



Model	Part	Part no.	Quantity per mill		Hardware per wear liner/end liner	Lifting tool/lug	
			W/WB	C/LS		New part installation	Worn part removal
VTM-3000-WB VTM-4500-C	Wear liner Gen 1 <sup>1</sup>	03-525695	4	6	-	Lifting Tool ZX11338260	Lifting Tool ZX11338260
	Wear liner Gen 1.5	ZX12002078			-	M36 Lug ZX12085881	M24 Lug ZX12085880
	Wear Liner Gen 2	ZX11853305			-	M36 Lug ZX12085881	M24 Lug ZX12085880
	End Liner Gen 1 <sup>1</sup>	ZX11641731	2	2	-	Lifting Tool ZX11337800	Lifting Tool ZX11337800
	End Liner Gen 1.5	ZX12035288			-	M48 Lug ZX12010226	M36 Lug ZX12085881
	End Liner Gen 2	ZX11739360			-	M48 Lug ZX12010226	M36 Lug ZX12085881
	End Liner Gen 3	ZX11833209			-	M48 Lug ZX12010226	M36 Lug ZX12085881
	Oval head bolt 3"x14"	02-098927	18	24	3/3	-	-
	Oval head bolt 3"x18" <sup>2</sup>	AX01-100257355	18	24	3/3		
	Special washer 3.25"	02-098928	18	24	3/3	-	-
	Nut 3"	04-141259	36	48	6/6	-	-
	Pad	ZX11303163	12	16	2/2	-	-
VTM-2250-WB VGX-3000	Wear Liner Gen 1	ZX11875643	6	-	-	M36 Lug ZX12085881	M36 Lug ZX12085881
	End Liner Gen 1	ZX11875644	2	-	-	M36 Lug ZX12085881	M36 Lug ZX12085881
	Oval head bolt 2.5"x11.88"	ZX11964043	24	-	3/3	-	-
	Oval head bolt 2.5"x13.5" <sup>3</sup>	AX01-100260749	24		3/3		
	Special washer 2.75"	ZX11964044	24	-	3/3	-	-
	Nut 2.5"	ZX12018738	48	-	6/6	-	-
	Pad	ZX11924416	16	-	1/1	-	-

<sup>1</sup>Liners being phased out. To be replaced soon by Gen 1.5.

<sup>2</sup>Use the designated size of oval head bolt for flights with thickness greater than 150 mm.

<sup>3</sup>Use the designated size of oval head bolt for flights with thickness greater than 100 mm.

Model	Part	Part no.	Quantity per mill		Hardware per wear liner/end liner	Lifting tool/lug	
			W/WB	C/LS		New part installation	Worn part removal
VTM-1500-WB VGX-1850	Wear Liner Gen 1	03-156395	6	-	-	Lifting Tool ZX11341490	Lifting Tool ZX11341490
	Wear Liner Gen 2	ZX11812072		-	-	M36 Lug ZX12085881	Lifting Tool ZX11341490
	End Liner Gen 1	03-156390	2	-	-	Lifting Tool ZX11341277	Lifting Tool ZX11341277
	End Liner Gen 2	ZX11557494		-	-	M36 Lug ZX12085881	Lifting Tool ZX11341277
	End Liner Gen 4	ZX11754067		-	-	M36 Lug ZX12085881	M24 Lug ZX12085880
	End Liner Gen 5	ZX11821859		-	-	M36 Lug ZX12085881	M24 Lug ZX12085880
	Oval head bolt 2"x10"	02-068101	30	-	4/3	-	-
	Special washer 2.25"	02-040314	30	-	4/3	-	-
	Nut 2"	04-087354	60	-	8/6	-	-
	Pad	ZX11340661	8	-	1/1	-	-
VTM-1250-WB VGX-1500	Wear Liner Gen 1	03-156375	8	-	-	Lifting Tool ZX11572173	Lifting Tool ZX11572173
	Wear Liner Gen 2	ZX11580931		-	-	M24 Lug ZX12085880	Lifting Tool ZX11572173
	Wear Liner Gen 3	ZX11939436		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Wear Liner Gen 4	ZX11998733		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 1	03-156370	2	-	-	Lifting Tool ZX11572173	Lifting Tool ZX11572173
	End Liner Gen 2	ZX11460132		-	-	M36 Lug ZX12085881	Lifting Tool ZX11572173
	End Liner Gen 3	ZX11841086		-	-	M36 Lug ZX12085881	M24 Lug ZX12085880
	End Liner Gen 4	ZX11998732		-	-	M36 Lug ZX12085881	M24 Lug ZX12085880
	Oval head bolt 2"x8.25"	02-040313	38	-	4/3	-	-
	Special washer 2.25"	02-040314	38	-	4/3	-	-
	Nut 2"	04-087354	76	-	8/6	-	-
	Pad	ZX11348863	10	-	1/1	-	-

Model	Part	Part no.	Quantity per mill		Hardware per wear liner/end liner	Lifting tool/lug	
			W/WB	C/LS		New part installation	Worn part removal
VTM-1000-WB VTM-1250-W VGX-1250	Wear Liner Gen 1	03-156345	8	-	-	Lifting Tool ZX11373039	Lifting Tool ZX11373039
	Wear Liner Gen 2	ZX11715689		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Wear Liner Gen 3	AX01-100261081		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 1	03-156340	2	-	-	Lifting Tool ZX11373039	Lifting Tool ZX11373039
	End Liner Gen 2	ZX11715692		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 3	ZX11803773		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 4	AX01-100261079		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Oval head bolt 2"x8.25"	02-040313	40	-	4/4	-	-
	Special washer 2.25"	02-040314	40	-	4/4	-	-
	Nut 2"	04-087354	80	-	8/8	-	-
	Pad	ZX11392823	10	-	1/1	-	-
	VTM-800-WB VTM-900-W	Wear Liner Gen 1	03-156314	14	-	-	Lifting Tool AX03-100046137
Wear Liner Gen 2		ZX11574390	-		-	M24 Lug ZX12085880	M24 Lug ZX12085880
Wear Liner Gen 3		AX01-100276610	-		-	M24 Lug ZX12085880	M24 Lug ZX12085880
End Liner Gen 1		03-156313	2	-	-	Lifting Tool AX03-100044746	Lifting Tool AX03-100044746
End Liner Gen 2		ZX11574395		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
End Liner Gen 3		ZX11984828		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
Oval head bolt 1.25"X6.5"		02-032645	48	-	3/3	-	-
Special washer 1.31"		02-032710	48	-	3/3	-	-
Nut 1.25"		1003025081	96	-	6/6	-	-
Pad		ZX11810333	16	-	1/1	-	-

Model	Part	Part no.	Quantity per mill		Hardware per wear liner/end liner	Lifting tool/lug	
			W/WB	C/LS		New part installation	Worn part removal
VTM-650-WB VTM-800-W	Wear Liner Gen 1	03-156335	10	-	-	Lifting Tool AX03-100193396	Lifting Tool AX03-100193396
	Wear Liner Gen 2	ZX11384786		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 1	03-156330	2	-	-	Lifting Tool AX03-100193395	Lifting Tool AX03-100193395
	End Liner Gen 2	ZX11384787		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 3	ZX11878909		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 4	ZX11984810		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Oval head bolt 1.25"X6.5"	02-032645	48	-	4/4	-	-
	Special washer 1.31"	02-032710	48	-	4/4	-	-
	Nut 1.25"	1003025081	96	-	8/8	-	-
	Pad	ZX11433009	12	-	1/1	-	-
VTM-500-WB VTM-600-W	Wear Liner Gen 1	03-156382	10	-	-	Lifting Tool AX03-100043458	Lifting Tool AX03-100043458
	Wear Liner Gen 2	ZX11937278		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Wear Liner Gen 3	AX01-100261558		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 1	03-156381	2	-	-	Lifting Tool AX03-100043421	Lifting Tool AX03-100043421
	End Liner Gen 2	ZX11937217		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 3	ZX11915417		-	-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Oval head bolt 1.25"X6.5"	02-032645	36	-	3/3	-	-
	Special washer 1.31"	02-032710	36	-	3/3	-	-
	Nut 1.25"	1003025081	72	-	6/6	-	-
	Pad	ZX11560709	12	-	1/1	-	-

Model	Part	Part no.	Quantity per mill		Hardware per wear liner/end liner	Lifting tool/lug	
			W/WB	C/LS		New part installation	Worn part removal
VTM-400-WB VTM-400-LS VTM-500-W	Wear Liner Gen 1	03-005004	14	10	-	Lifting Tool AX03-100188083	Lifting Tool AX03-100188083
	Wear Liner Gen 2	MM1565336			-	M24 Lug ZX12085880	M24 Lug ZX12085880
	End Liner Gen 1	03-156305	2	2	-	Lifting Tool AX03-100188055	Lifting Tool AX03-100188055
	End Liner Gen 2	MM1565428			-	M24 Lug ZX12085880	M24 Lug ZX12085880
	Oval head bolt 1"x5"	02-005170	48	36	3/3	-	-
	Special washer 1.06"	02-000538	48	36	3/3	-	-
	Nut 1"	1003025071	96	72	6/6	-	-
	Pad	ZX11297117	16	12	1/1	-	-
VTM-250/300-WB VTM-300/350-W VTM-300-LS	Wear Liner Gen 1	03-156365	16	12	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	End Liner Gen 1	03-156360	2	2	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	Oval head bolt 1"x5"	02-005170	54	42	3/3	-	-
	Special washer 1.06"	02-000538	54	42	3/3	-	-
	Nut 1"	1003025071	108	84	6/6	-	-
	Pad	ZX11304477	18	14	1/1	-	-
VTM-150/200-WB VTM-200/250-W VTM-200/250-LS	Wear Liner Gen 1	03-056604	18	16	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	End Liner Gen 1	03-271600	2	2	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	Oval head bolt 0.875"x3.5"	02-002803	60	54	3/3	-	-
	Special washer 1.06"	02-000538	60	54	3/3	-	-
	Nut 0.875"	00-631-001-114	120	108	6/6	-	-
	Pad	ZX11298605	20	18	1/1	-	-

Model	Part	Part no.	Quantity per mill		Hardware per wear liner/end liner	Lifting tool/lug	
			W/WB	C/LS		New part installation	Worn part removal
VTM-125-WB VTM-150-W VTM-150-LS	Wear Liner Gen 1	03-200200	22	20	-	Lifting Tool AX02-100193402	Lifting Tool AX02-100193403
	Wear Liner Gen 2	ZX11888379			-	M16 Lug ZX11914276	M16 Lug ZX11914276
	End Liner Gen 1	03-156320	2	2	-	Lifting Tool AX02-100193402	Lifting Tool AX02-100193403
	End Liner Gen 2	ZX11888297			-	M16 Lug ZX11914276	M16 Lug ZX11914276
	Oval head bolt 0.875"x3.5"	02-002803	72	66	3/3	-	-
	Special washer 1.06"	02-000538	72	66	3/3	-	-
	Nut 0.875"	00-631-001-114	144	132	6/6	-	-
	Pad	ZX11486251	24	22	1/1	-	-
VTM-75-WB VTM-100-W VTM-100-LS	Wear Liner Gen 1	03-056503	26	22	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	End Liner Gen 1	03-056808	2	2	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	Oval head bolt 0.875"x3.5"	02-002803	56	48	2/2	-	-
	Special washer 1.06"	02-000538	56	48	2/2	-	-
	Nut 0.875"	00-631-001-114	112	96	4/4	-	-
VTM-40/60-WB VTM-50/75-W VTM-50/75-LS	Wear Liner Gen 1	03-056901	30	26	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	End Liner Gen 1	03-214100	2	2	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	Oval head bolt 0.875"x3.5"	02-002803	64	56	2/2	-	-
	Special washer 1.06"	02-000538	64	56	2/2	-	-
	Nut 0.875"	00-631-001-114	128	112	4/4	-	-
VTM-20-WB VTM-30-LS	Wear Liner Gen 1	03-207200	30	30	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	End Liner Gen 1	03-207300	2	2	-	M12 Lug ZX12077053	M12 Lug ZX12077053
	Oval head bolt 0.875"x3.5"	02-002803	80	64	2/2	-	-
	Special washer 1.06"	02-000538	80	64	2/2	-	-
	Nut 0.875"	00-631-001-114	160	128	4/4	-	-
VTM-15-WB VTM-20-W VTM-20-LS	Wear Liner Gen 1	03-147202	38	30	-	N/A	N/A
	End Liner Gen 1	03-147302	2	2	-	N/A	N/A
	Oval head bolt 0.875"x3.5"	02-002803	80	64	2/2	-	-
	Special washer 1.06"	02-000538	80	64	2/2	-	-
	Nut 0.875"	00-631-001-114	160	128	4/4	-	-

# Vertimill® screw shaft wear parts

To ensure longer equipment life and prevent unplanned stoppages, Metso wear caps and shaft liners protect your Vertimill® screw shaft against wear.

Part	Model	Part no.	Qty per mill
VTM-3000-WB VTM-4500-C	Wear Cap Kit Gen 1 - Cast Iron	ZX11736479	1
	Wear Cap Kit Gen 2 - Rubber	ZX11897530	
	Shaft Liner Kit Gen 1 - Rubber	AX01-100237426	4
	Adapter Plate	AX01-100235977	2
VTM-2250-WB VGX-3000	Wear Cap Kit Gen 1 - Cast Iron	AX02-100185735	1
	Shaft Liner Kit Gen 1 - Rubber	AX01-100128632	8
	Adapter plate	AX02-100128631	4
VTM-1500-WB VGX-1850	Wear Cap Kit Gen 2 - Rubber	ZX11841891	1
	Wear Cap Kit Gen 3 - Rubber/PU	ZX11968277	
	Wear Cap Kit Gen 4 - Easy Clamp	ZX12050739	
	Shaft Liner Kit Gen 1 - Rubber	ZX11943843	8
	Adapter Plate	ZX11816433	4
VTM-1000/1250-WB VTM-1250-W VGX-1250/1500	Wear Cap Kit Gen 2 - Rubber	ZX11881671	1
	Wear Cap Kit Gen 3 - Rubber/PU	ZX11998734	
	Shaft Liner Gen 1 - Rubber	ZX11962931	8
	Adapter Plate	ZX11853090	4
VTM-800-WB VTM-900-W	Wear Cap Kit Gen 2 - Rubber	ZX11959231	1
	Shaft Liner Gen 1 - Rubber	AX03-100074231	4
	Adapter Plate	AX03-100073808	4
VTM-650-WB VTM-800-W	Wear Cap Kit Gen 1 - Cast Iron	ZX11769932	1
	Wear Cap Kit Gen 2 - Rubber/PU	ZX12071651	1
	Shaft liner gen 1 - Rubber	AX03-100078920	4
	Adapter Plate	AX03-100076798	4
VTM-500-WB VTM-600-W	Wear Cap Kit Gen 1 - Rubber	ZX11896212	1
	Shaft Liner Gen 1 - Rubber	AX01-100224743	4
	Adapter Plate	AX01-100224538	4
VTM-400-WB VTM-400-LS VTM-500-W	Wear Cap Kit Gen 1 - Cast Iron	ZX11848309	1
	Shaft Liner Gen 1 - Rubber	AX03-100080333	4
	Adapter Plate	AX03-100076975	4



## Shaft liners

Shaft liners are applied to enhance protection of the Vertimill® screw shaft between flights. Adapter plates made of mild steel are welded at the screw shaft with wedges for fast shaft liner installation.

To prevent permanent screw shaft damage, shaft liners should be inspected regularly for proper fitting and significant wear.

## Wear cap

Wear caps were developed to protect the bottom section of the screw shaft by using the existing tapped hole developed for shipping purposes, giving it multiple uses.

The newest generation Vertimill wear cap includes a redesigned lock kit for quick and simple replacement with a separate, lightweight clamp disk for fast and easy replacement.

# Orebed™ magnetic liners

**Greater working diameter, more efficient grinding**  
Orebed™ is a magnetic lining that can be used combined with grinding magnetic material (media and/or slurry). The lining consists of a series of powerful permanent ceramic magnets embedded in heavy-duty wear rubber elements. Magnetic force ensures that the lining attracts ferromagnetic material, which forms a continuous wear layer with a wave profile. Magnetic force also keeps the lining in place, so no bolts are required for installation.

## Lasting strength with no maintenance

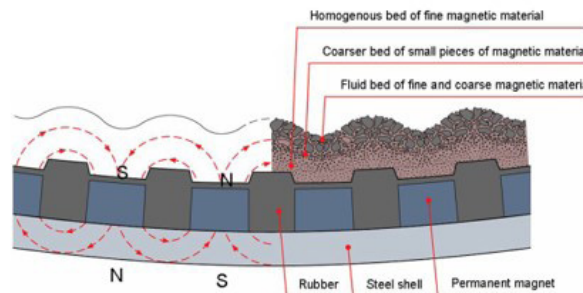
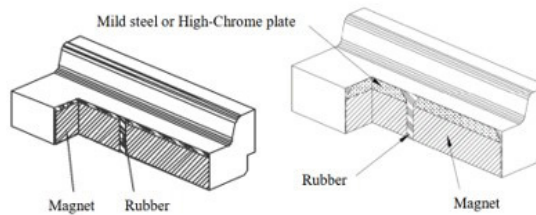
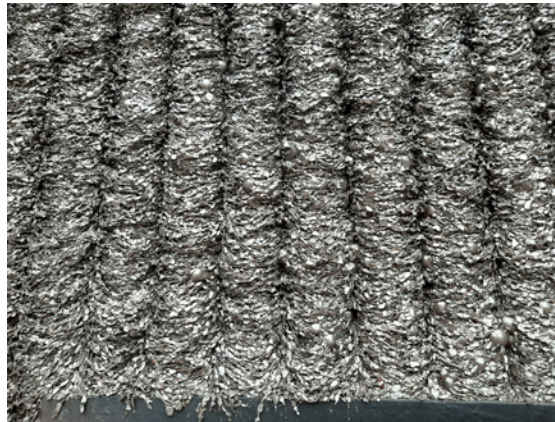
The elements grip the shell with all the force of a permanent magnet. There are no bolts to break or loosen. An Orebed™ lining is so strong that it stays in place with undiminished performance for years with no maintenance.

## Fast, easy installation

Installing an Orebed™ lining takes less time and less work than a conventional lining, since the elements don't have to be bolted onto the shell. All installation work is performed inside the mill. There's no need to drill holes through the shell or adjust fastenings on the outside.

Orebed lining advantages include:

- Efficient in fine grinding applications
- Low ball consumption
- Maintenance savings - Long lifetime cuts down labor and material costs, downtime and inventory
- Increased production due to larger effective mill diameter



Metso recommends the following liners for specified mill models:

Type	Mill size/type
All rubber	VTM-1500 and smaller
Steel cap	VTM-2250 and larger
Steel cap HT	All lime slakers

Type	Nominal width x length	Part no.
All rubber	6.25" x 10"	02-804289
	6.25" x 7.5"	02-804713
	6.25" x 5"	02-804714
	6.25" x 2.5"	02-804715
	3.125" x 10"	02-804716
	3.125" x 7.5"	02-804717
	3.125" x 5"	02-804718
Steel cap	6.25" x 10"	02-800306
	6.25" x 7.5"	02-801247
	6.25" x 5"	02-801519
	6.25" x 2.5"	02-802042
	3.125" x 10"	02-801246
	3.125" x 7.5"	02-801248
	3.125" x 5"	02-801520
Steel cap for high temperatures	6.25" x 10"	SK-02-810826
	6.25" x 7.5"	ZX11298009
	6.25" x 5"	SK-02-810827
	6.25" x 2.5"	ZX11771421

Metso is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. By improving our customers' energy and water efficiency, increasing their productivity, and reducing environmental risks with our product and process expertise, we are the **partner for positive change**.