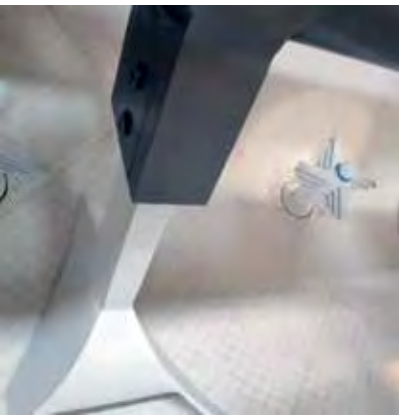
MIXING TECHNOLOGIES

High-Efficiency Ploughshare Mixers for Secondary Battery Industry

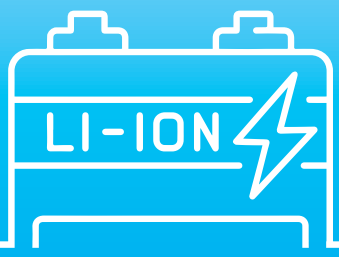
WBH Lithium











WAMGROUP®

MAP®

You name it, we mix it.

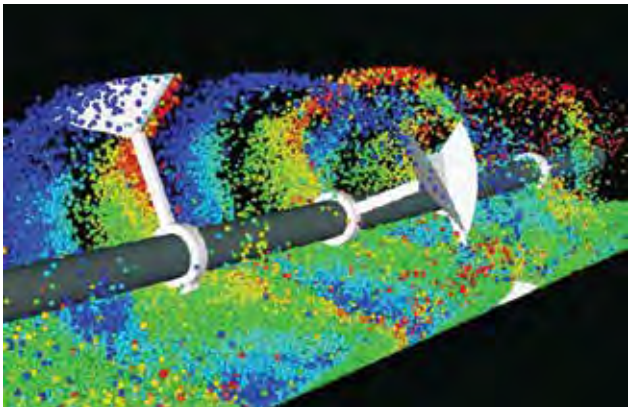
High-Efficiency Ploughshare Mixers for Secondary Battery Industry

WBH Lithium

HIGH-QUALITY MIXTURES TRIED AND TESTED THOUSANDS OF TIMES

The WBH Lithium High-Efficiency Ploughshare Mixer is the ideal machine for obtaining highest quality mixtures in perfectly reproducible batches. Over the last four decades MAP® has supplied thousands of mixers to a large variety of industries. Mixing tests for customers are performed in the Group's own laboratories worldwide.

The WBH Lithium Horizontal Single-Shaft Batch Mixer is based on the principle of mechanical fluidisation of the product. The particular shape, position and rotational speed of the mixing tools, create a centrifugal vortex motion, which allows the materials to be projected three-dimensionally and to merge together.



This ensures that ingredients with different particle sizes and bulk densities are mixed perfectly and with high precision within the shortest possible time.

As a result of decades of experience in the field of mixing technology, MAP® has developed specialised solutions for the Secondary Battery Industry.

SUCCESSFUL FORMULATIONS

LCO + $LiCO_3$	LMO + $LiCO_3$	NMC + $LiCO_3$	NMC 523	NMC 811
NCA + $LiCO_3$	NCA + LiOH	NMC +LiOH	NMC 622	NMC 9-0.5-0.5

WHY CHOOSE WBH LITHIUM?

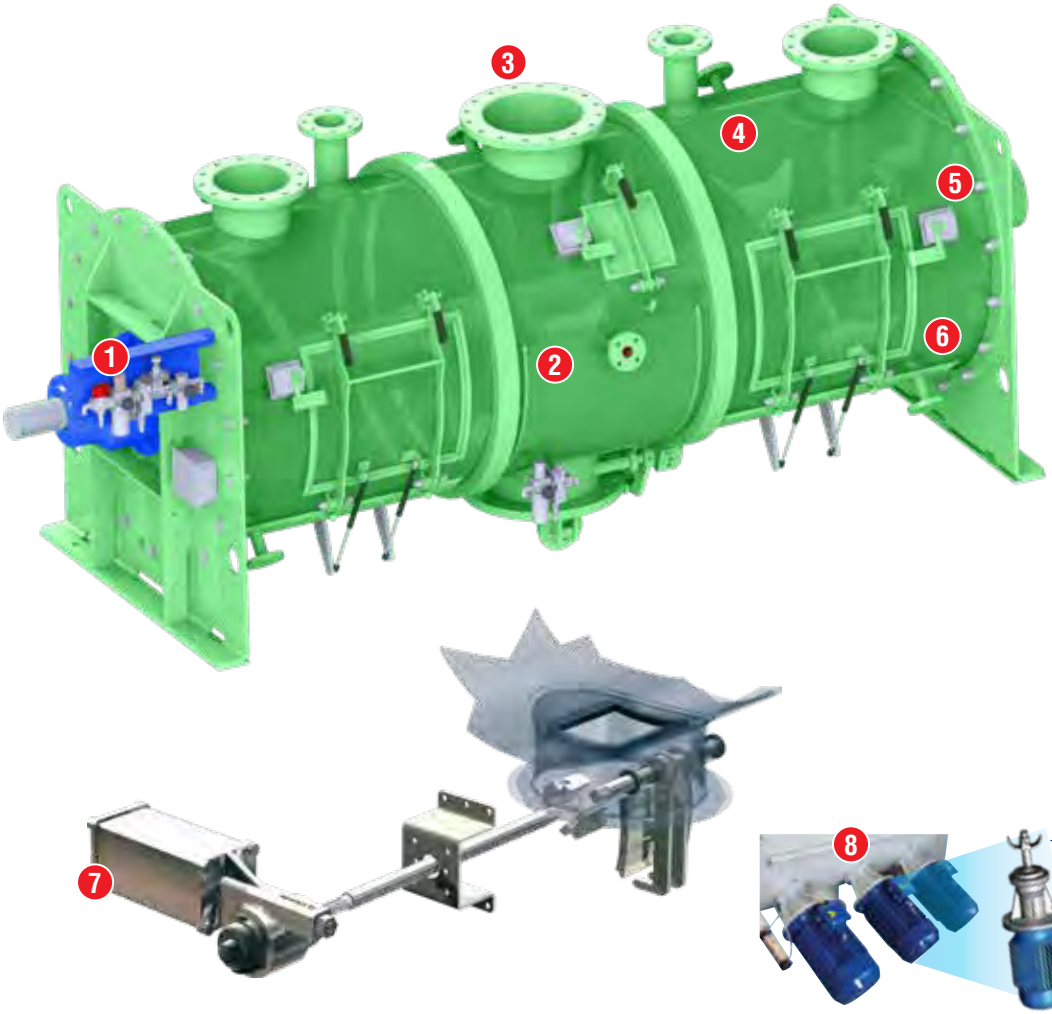
- ✓ **No product contamination** thanks to specialised design
- ✓ **Easy cleaning** and maintenance
- ✓ **Easy sampling**
- ✓ **High production** volumes
- ✓ **No temperature increases** during mixing process
- ✓ **Low energy** consumption per litre of volume
- ✓ **Short mixing time** (about 20 ~ 30 minutes no matter how complex the formulation)
- ✓ **Durable machine** (chamber life not less than 15 years)
- ✓ **Wide range** of specialised abrasion and corrosion-resistant coatings and linings

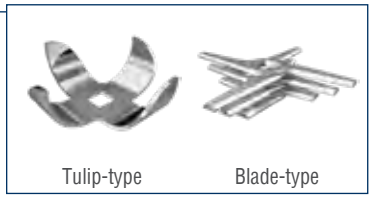
Benefits

- ✓ Simple: streamlined, user-friendly process
- ✓ Fast: short mixing time
- ✓ Reduced energy consumption: low power installed (e.g., 75 kW on 3,000-litre mixer)
- ✓ Reliable: no product temperature increases during mixing process
- ✓ Durable: minimised wear of tools and mixing chamber
- ✓ Safe: easy cleaning and maintenace

Technical Features

- Capacity: 75 ~ 25,000 litres (2.6 ~ 880 cu ft) per batch
- Mixing ratio: 1/100,000
- Optional liquid addition
- Manufactured from 304L / 316L stainless steel
- Pneumatic control panel





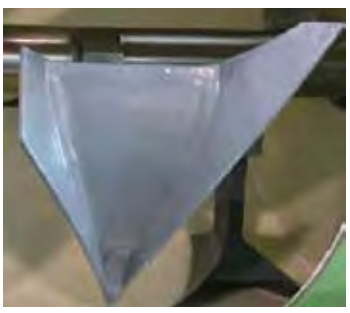
1. End bearing assemblies with special shaft seals for battery powders
2. Adjustable, replaceable mixing tools
3. Different inlet options
4. Heavy-duty mixing chamber manufactured from 304L / 316L stainless steel
5. Wear and corrosion-resistant chamber lining
6. Inspection door enabling comfortable access to the interior of the mixer
7. Flush discharge valve
8. Choppers

Special Features for Secondary Battery Industry

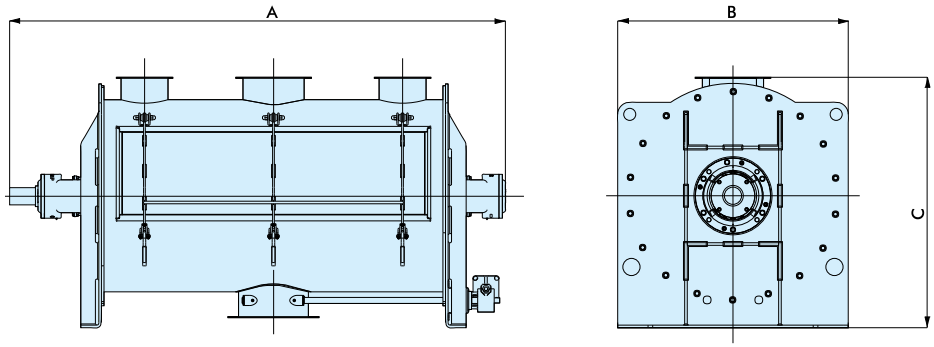

Wear and corrosion-resistant ceramic tile chamber lining


Special shaft seals


Special outlet with cleaning system


Special coated ploughshare tool design

Overall Dimensions



Model	Working Capacity (l)	Drive Unit + Chopper average power installed (kW)	A	B	C	Empty Weight (kg)
WBH 300	85 - 210	15	1,840	770	890	550
WBH 500	155 - 385	32	2,150	930	1,080	840
WBH 800	215 - 560	35	2,350	980	1,150	1,080
WBH 1100	315 - 770	55	2,690	1,100	1,280	1,400
WBH 1600	485 - 1,150	60	2,690	1,100	1,280	1,400
WBH 2000	551 - 1,400	75	2,920	1,340	1,460	2,100
WBH 3000	825 - 2,100	100	3,920	1,340	1,460	2,800
WBH 4800	1,340 - 3,360	150	4,520	1,500	1,750	4,300
WBH 6000	1,650 - 4,150	200	4,820	1,600	1,860	4,800
WBH 8800	2,450 - 6,150	250	5,390	1,810	2,130	5,800

Dimensions in mm

Rights reserved to modify technical specifications.

203001790 March 2023



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WAM® TOREX® MAP® EXTRAC® RONCUZZI® FLITECH® TECNO CM

SILOFAB MVM CHIOR® SEPCOM SPECO® SAVI SAVECO

MAP®

You name it, we mix it.

UNI EN ISO 9001 Certified Company

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