ZMI PORTEC
DETENTION LIME SLAKER

CARMEUSE SYSTEMS

DATA SHEET

THE EFFICIENT LIME SLAKING SOLUTION

The ZMI Portec Detention Slaker from Carmeuse Systems slakes quicklime (particle size up to ¾") and produces slurry with up to 30% solids. This solids concentration allows any lime added to the slaker to be quickly mixed eliminating hot spots from forming. Our detention slaker produces a highly reactive lime slurry to meet your application needs and maximizes your lime usage.

WHY USE THE ZMI PORTEC LIME SLAKER FROM CARMEUSE SYSTEMS?

SAFE - Horizontal agitator breaks the slurry surface preventing dangerous lime 'cap' formation

AUTOMATED - Responds to changes in lime quality and feed rate via an integrated automated control system

VERSATILE - Slakes pebble, as well as fine lime up to ¾" and handles water with moderate impurity levels without issues

EFFICIENT - Vigorous agitation of slaking chamber ensures no dead spots optimizing lime usage

Applicability can vary by system make and model. For an evaluation, contact us: salesinquiries@carmeuse.com

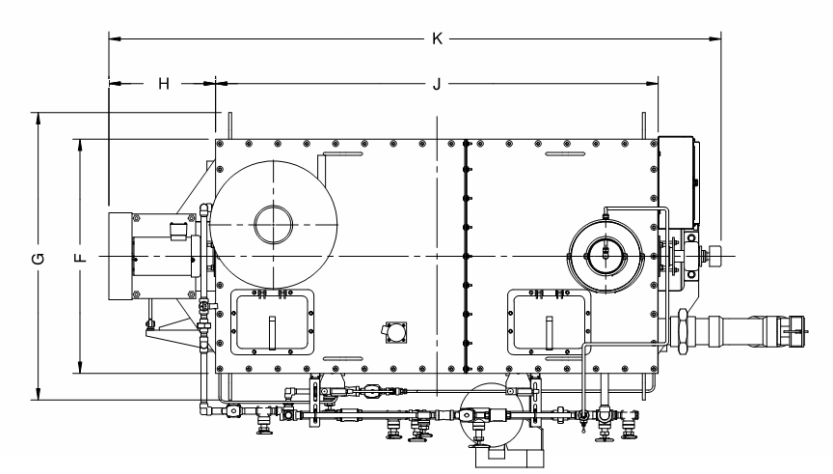
YOUR **LIME HANDLING** EXPERTS™

FEATURES	BENEFITS
Horizontal rake type agitator	Ensures complete mixing of water and lime, preventing hot spots and maximizing lime usage
External water jacket	Preheats incoming water reducing the need for pre-heaters saving on energy costs
Round shape of the barrel bottom	Turns over lime due to paddles' close contact with side walls ensuring thorough mixing
Wetting bowl	Creates a water curtain around the dry feed stream preventing lime buildup and upstream plugging increasing efficiency
Forced draft wet scrubber	Removes dust and steam saving money on wasted lime and maintenance
Stub shaft to agitator shaft connection	Reduces seal packing wear, extending shaft life and decreasing replacement costs
Efficient solids and grit handling	Minimizes settling resulting in a high reactive slurry
Slaking chambers separated by baffles	Prevents lime short circuiting ensuring fully slaked lime at the outlet
Wear liner in slaking zones	Protects the life of the slaking body and is replaceable extending the slaker life cycle
External agitator shaft bearings	Minimizes wear and tear due to no contact with lime slurry extending product life
Asymmetric packing type seal arrangement	Reduces seal leaks and extends the shaft life improving safety and saving money
PLC control system option	Provides a safe and trouble-free operation maximizing productivity

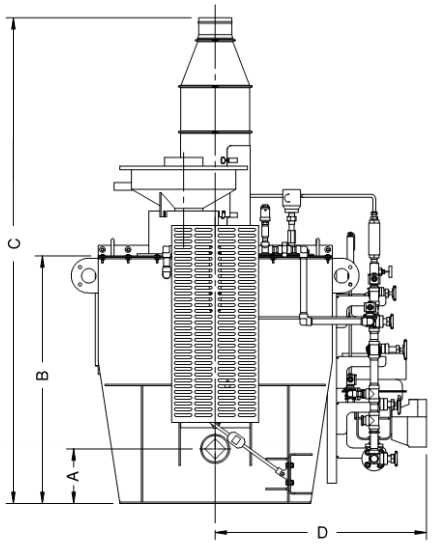
ZMI PORTEC MODEL AVAILABILITY

MODEL	CaO (lbs./h [kg/h])		A (in. [mm])		B (in. [mm])		C (in. [mm])		D (in. [mm])		E (in. [mm])		F (in. [mm])	
M-5	1000	[454]	8 1/2	[216]	37	[940]	78 1/2	[1994]	27	[686]	20 1/2	[521]	36	[915]
M-15	2500	[1134]	9 1/2	[242]	43	[1093]	84	[2134]	36 1/2	[928]	24 1/2	[623]	40 1/2	[1029]
M-25	5500	[2495]	17	[432]	65 1/2	[1664]	107	[2718]	43 1/2	[1105]	39 1/2	[1004]	55 1/2	[1410]
M-40	9000	[4082]	17	[432]	73	[1855]	120 1/2	[3061]	52	[1321]	43	[1093]	65	[1651]
M-55	12500	[5670]	17	[432]	73	[1855]	114 1/2	[2909]	52 1/2	[1334]	43	[1093]	65	[1651]
M-60	16000	[7257]	16	[407]	73	[1855]	119 1/2	[3036]	54	[1372]	43	[1093]	65	[1651]
M-90	26000	[11793]	14 1/2	[369]	76	[1931]	123 1/2	[3137]	55 1/2	[1410]	43	[1093]	70	[1778]

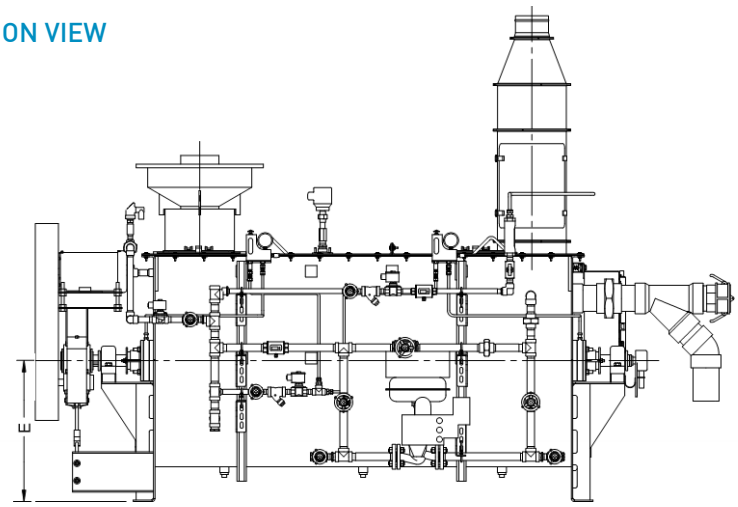
PLAN VIEW



SIDE VIEW



ELEVATION VIEW



NOTE:

Information / dimensions shown are for reference only and is subject to change based on final design and applications.

G (in. [mm])		H (in. [mm])		J (in. [mm])		K (in. [mm])		Slurry Overflow Connection (in. [mm])		Wetting Bowl Inlet Connection (in. [mm])		Drive (HP [kW])		Volume (US gal [L])	
42 1/2	[1080]	14 1/2	[369]	41	[1042]	65 1/2	[1664]	26.75	[679]	48.5	[1232]	1.5	[1.1]	90	[340]
49 1/2	[1258]	18 1/2	[470]	76 1/2	[1944]	106	[2693]	35	[889]	56.5	[1435]	2	[1.5]	210	[790]
66	[1677]	22	[559]	82	[2083]	115 1/2	[2934]	53	[1346]	82.25	[2089]	5	[3.7]	450	[1700]
74 1/2	[1893]	32 1/2	[826]	99	[2515]	143	[3633]	61	[1549]	92	[2337]	7.5	[5.6]	720	[2730]
74 1/2	[1893]	32 1/2	[826]	108	[2744]	151 1/2	[3849]	61	[1549]	90.75	[2305]	10	[7.5]	990	[3750]
74 1/2	[1893]	29	[737]	129	[3277]	172	[4369]	58	[1473]	90	[2286]	15	[11.2]	1360	[5150]
80	[2032]	33 1/2	[851]	168	[4268]	216	[5487]	61	[1549]	99.25	[2521]	20	[14.9]	1950	[7380]

SPECIFICATIONS

PROCESS REQUIREMENT

- **Calcium Oxide:** Min 75% CaO available
- **Feed Particle Size:** Max. ¾" [19 mm]
- **Water Supply:** Min. pressure of 40 psig [276 kPag]

ANCILLARIES

- Water Piping Manifold
- Wetting Bowl
- Forced Draft Wet Scrubber

MATERIAL OF CONSTRUCTION

- **Standard:**
  - Body: A36 / A1011 Carbon Steel
  - Stub Shaft: 17-4 Stainless Steel
  - Agitator: Abrasion Resistance Steel AR400BH
  - Water Piping Manifold: A53 Galvanized Steel piping and brass / bronze valves
  - Wetting Bowl: A36 / A1011 Carbon Steel
  - Wet Scrubber: 304 Stainless Steel
- **Options:**
  - Body: 304 Stainless Steel
  - Water Piping Manifold: 304 Stainless Steel piping and valves
  - Wetting Bowl: 304 Stainless Steel

INSTRUMENTATION AND CONTROLS

- **Temperature and Flow Control:** 4-20 mA HART
- **Discrete Control and Alarm:** 24 VDC / 120 VAC
- **Local Panel / Junction Box Rating:** NEMA 4X 304SS [IP66]
- **Approvals:** CSA, FM, cULus, CE Marking

COATING (FOR CARBON STEEL CONSTRUCTION)

- **Surface Preparation:** SSPC-SP 6 Commercial Blast Cleaning / NACE No.3 [ISO 8501 Sa 2]
- **Primer:** Carboline Carbomastic 615, 3-4 mil [75 to 100 µm] DFT
- **Finish:** Carboline Carboxane 2000, 3-4 mil [75 to 100 µm] DFT
- **Finish Color:** RAL 9003 Signal White (Other colors available upon request)
- **Corrosivity Category:** (ISO 12944) C3 High and C4 Medium

CARMEUSE
SYSTEMS

YOUR **LIME HANDLING** EXPERTS™

Carmeuse Systems is your trusted partner for designing, integrating, and upgrading lime handling systems. As part of the Carmeuse Group, our teams have unrivaled expertise in understanding the role of lime handling equipment within your operation. From selecting the appropriate raw material, to system engineering, enhancements, and maintenance, our teams provide End-2-End support and guidance. We make complex projects seem simple and help our customers every step of the way. Let's start a conversation, contact us at:

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