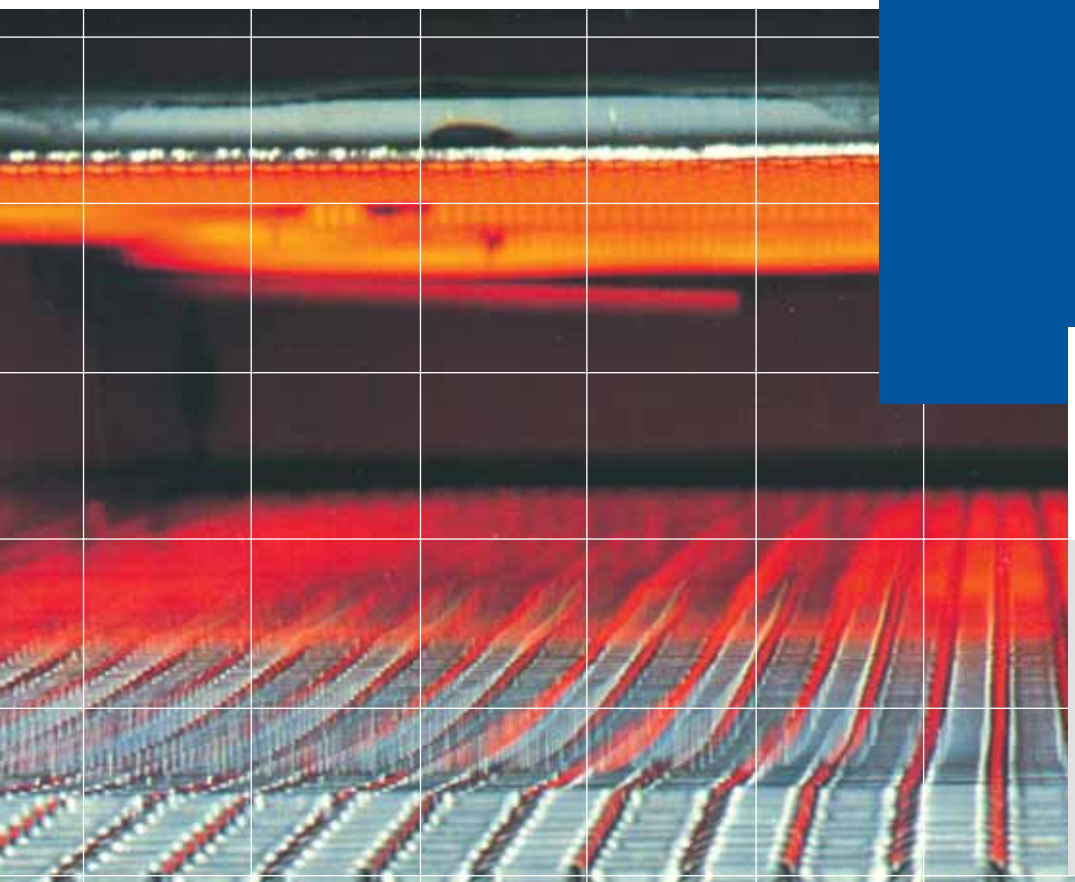
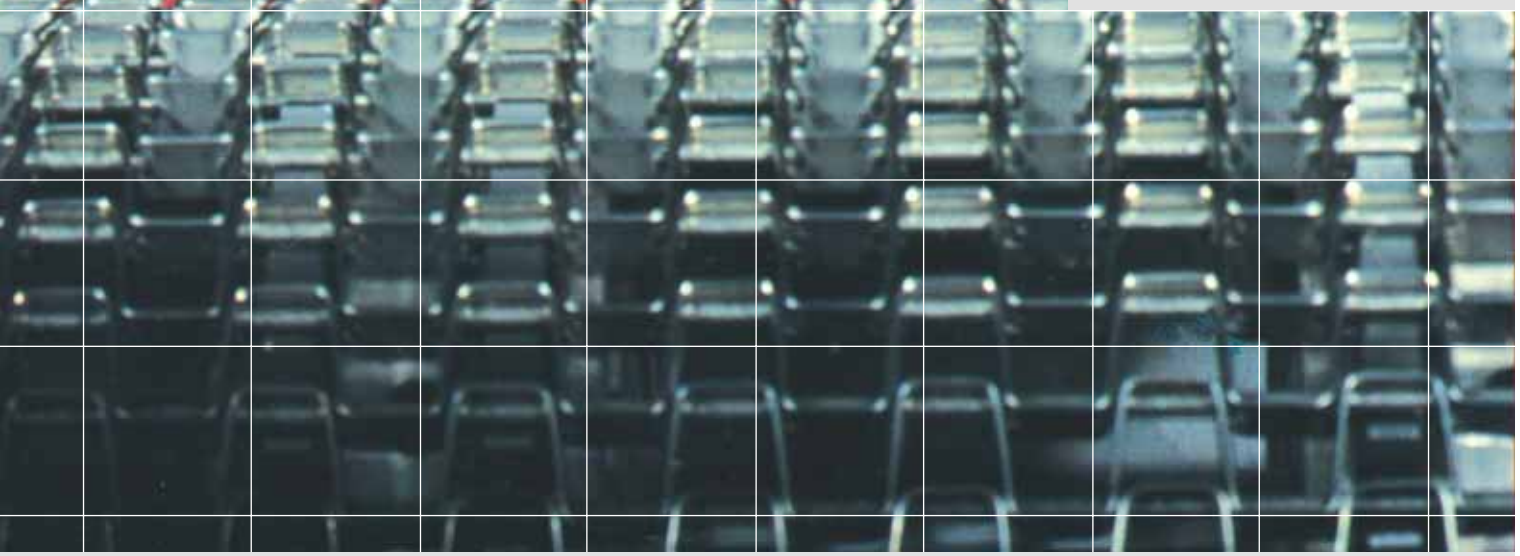
Water Technologies

J-Mate® Dryers

SIEMENS





Water Technologies

The Final Step In Metal Hydroxide Waste Volume And Weight Reduction

J-Mate® Continuous Dryer
(J-Mate 180 G shown)

J-Mate® Batch Dryer
U.S. Patent #5456022
(J-Mate® J-201 shown)

J-Mate® Dryers — Continuous and Batch Solutions

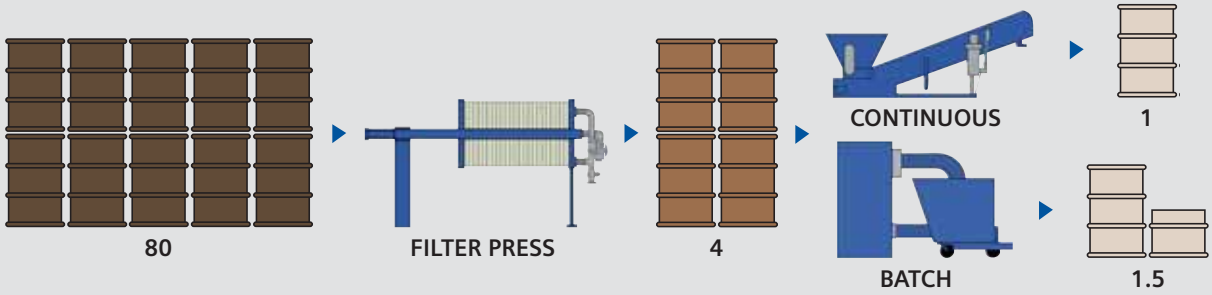
A pioneer in dewatering technology, Siemens Water Technologies has established itself as the leading provider of dewatering solutions in a wide range of wastewater and processing applications. Evidence of Siemens' leadership in metal hydroxide waste reduction is the J-Mate® dryer, a JWI® product. Designed as a second stage dryer for further reduction after mechanical dewatering, the J-Mate® dryer takes over where the filter press, belt press and centrifuge leave off, producing an extremely dry, easily disposed of material.

The JWI® continuous and batch dryers are designed to reduce disposal costs by removing residual moisture from dewatered cake. Both are designed to be used for second stage volume and weight reduction down-stream from a J-Press® filter press or other dewatering system. The continuous J-Mate® dryer achieves water removal rates from 45 lbs to 190 lbs (20 KG to 86 KG) per hour in high volume applications; the batch J-Mate® dryer removes 7 lbs to 50 lbs (3 KG to 23 KG) of moisture per hour in low heat, low volume situations.

The Winning Combination

The J-Press® filter press, a JWI® product, reduces 80 barrels of metal hydroxide sludge to 4 barrels of cake. While this is a substantial reduction, greater savings are realized with the addition of the J-Mate® dryer. Since 60% to 80% of the filter cake is moisture,the J-Mate® dryer can further reduce 4 barrels of filter cake to 1-1.5 barrels of dried material for easier, less costly disposal.

Cake from the J-Press® filter press is loaded into the continuous J-Mate® dryer receiving hopper using one of several material handling options or directly into a special mobile dumpster, which is then connected to the dehydration unit of the J-Mate® batch dryer.



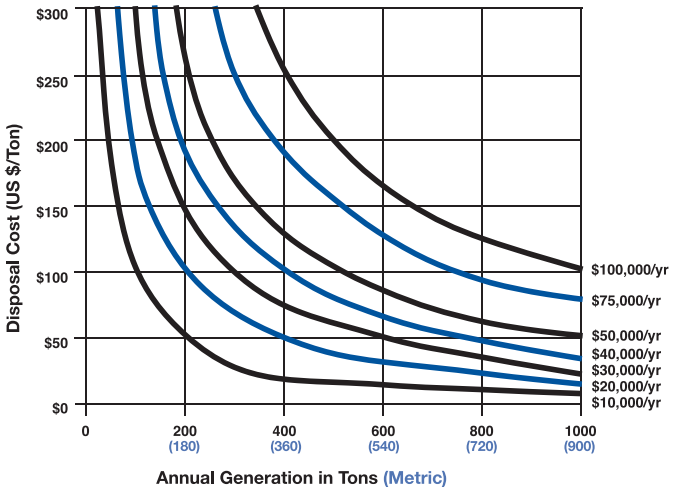
The J-Press® filter press can significantly heighten the J-Mate® dryer's potential in reducing sludge disposal costs.

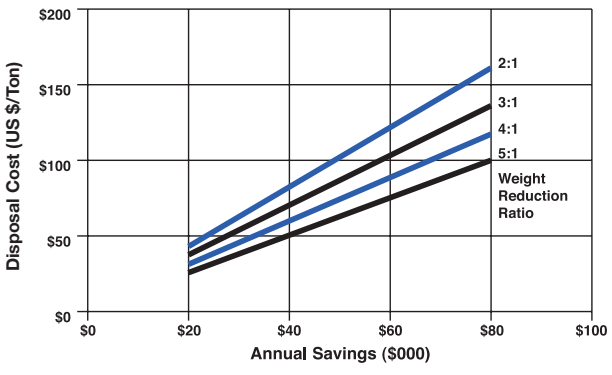
ISO 9001:2000 QMS

The quality management system governing the manufacture of the J-Mate® continuous/batch dryers is ISO 9001:2000 certified.

Fast Payback

Depending on disposal costs in your area, J-Mate® dryers offer an investment payback in as little as 6 months.





J-Mate® Continuous Dryers

While mechanical dewatering units can reduce sludge volume up to 20:1, a substantial amount of water still remains in the sludge cake material. The continuous J-Mate® dryer dehydrates the cake material to a dry granular form. The result is both a weight and volume reduction of approximately 4:1. So effective is the J-Mate® dryer that the payback on your investment can be achieved in as little as 6 months. Engineered for high volume applications, the continuous J-Mate® dryer offers features that deliver significant benefits in efficient, low maintenance operation.

Designed Specifically For Metal Hydroxide and Inorganic Materials

- Volume reduction ranges from 2:1 to 5:1.
- Weight reduction from water loss with material going from 20-40% solids to 60-80% solids.
- Fully automatic processing cycle. Minimal operator attention required.
- 98% efficient stainless steel venturi type wet scrubber.
- Stainless steel construction of all internal wetted parts in drying chamber.
- Modulating control system for optimum energy use.
- Highly efficient infrared heaters reduce energy cost.
- Available in LP, natural gas and electric.
- Optional hydraulic loading system automatically raises and empties drums or dumpsters into receiving hopper.
- Multiple material handling options for installation flexibility.
- Indirect heating elements. No direct flame touching material.
- Electronic ignition on gas models.
- The dried, granular material discharges to a bag, barrel or dumpster for disposal.
- Constructed to UL® standards.

Optional Features

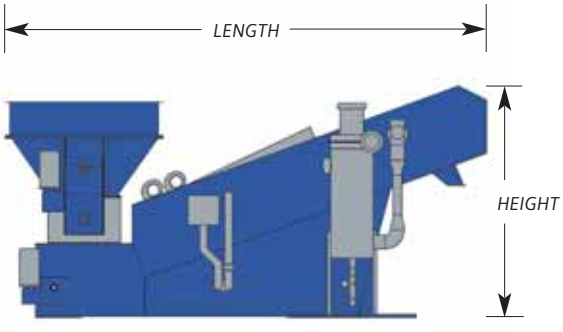
- Dumpsters.
- Hydraulic dumping mechanism for dumpster or drum.
- Stainless steel receiving hoppers.
- Special hopper designs and sizes.
- One way disposable bags.
- Custom support structures available to elevate filter press for direct disposal into J-Mate® dryer.
- Single or dual diverter discharge chute.

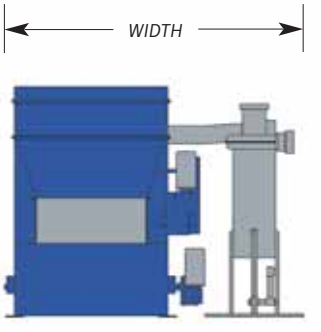
Specifications: J-Mate® Continuous Dryers

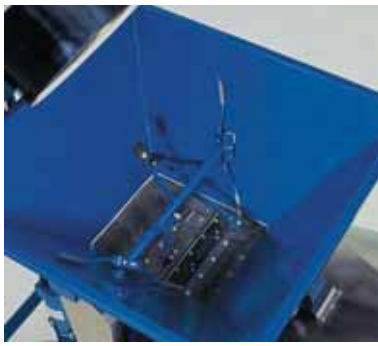
	J-120G	J-120E	J-180G	J-180E	J-360G	J-360E
HEAT SOURCE						
	Gas	Electric	Gas	Electric	Gas	Electric
WORKING CAPACITY						
Water Removal Rate ≠	47 lbs/hr 21.3 L/hr	39 lbs/hr 17.7 L/hr	94 lbs/hr 42.7 L/hr	72 lbs/hr 32.5 L/hr	188 lbs/hr 85.3 L/hr	169 lbs/hr 76.8 L/hr
POWER REQUIREMENTS — INCLUDING DUMP LIFT						
240V 3Ø 60Hz	20A	—	20A	—	30A	—
*480V 3Ø 60Hz	10A	50A	10A	65A	15A	140A
400V 3Ø 50Hz	12A	60A	12A	16A	18A	165A
Power/Kilowatts	6.7	37.2	6.7	50.7	6.7	110.7
BURNER ELEMENT RATING						
	125,000 BTU 131,850 KJ/hr	31.5 kW	200,000 BTU 210,960 KJ/hr	45 kW	400,000 BTU 369,180-421,920 KJ/hr	105 kW
GAS CONSUMPTION						
Natural	125 CFH 3.54 m^3/hr	— —	200 CFH 5.66 m^3/hr	— —	400 CFH 11.2 m^3/hr	— —
LP	1.2 GPH 4.5 LPH	— —	1.9 GPH 7.2 LPH	— —	3.7 GPH 14 LPH	— —
SCRUBBER WATER USAGE						
	1 GPM 3.8 LPM 40-60 psi 2.7-4.1 BAR	1 GPM 3.8 LPM 40-60 psi 2.7-4.1 BAR	1 GPM 3.8 LPM 40-60 psi 2.7-4.1 BAR	1 GPM 3.8 LPM 40-60 psi 2.7-4.1 BAR	3 GPM 11.4 LPM 40-60 psi 2.7-4.1 BAR	3 GPM 11.4 LPM 40-60 psi 2.7-4.1 BAR
SCRUBBER DRAIN						
	2" NPT Gravity Drain	2" NPT Gravity Drain	2" NPT Gravity Drain	2" NPT Gravity Drain	2" NPT Gravity Drain	2" NPT Gravity Drain
DIMENSIONS						
Length	160" 4064 mm	160" 4064 mm	160" 4064 mm	160" 4064 mm	160" 4064 mm	160" 4064 mm
Width	60" 1524 mm	60" 1524 mm	74" 1879 mm	75" 1905 mm	103" 2616 mm	112" 2845 mm
Height	78" 1981 mm	78" 1981 mm	78" 1981 mm	78" 1981 mm	78" 1981 mm	78" 1981 mm
Weight (Shipping, w/o lift)	3400 lbs 1542 KG	3400 lbs 1542 KG	3700 lbs 1678 KG	3700 lbs 1678 KG	4400 lbs 1995 KG	4400 lbs 1995 KG
Std. Hopper Capacity	10.7 ft^3 302 L	10.7 ft^3 302 L	13 ft^3 365 L	13 ft^3 365 L	17 ft^3 480 L	17 ft^3 480 L
EXHAUST AIR						
CFM	275 7-7.8 m^3/min	275 7-7.8 m^3/min	275 7-7.8 m^3/min	275 7-7.8 m^3/min	325 7-9.2 m^3/min	325 7-9.2 m^3/min
Temperature	71-93°C 160-200°F	71-93°C 160-200°F	71-93°C 160-200°F	71-93°C 160-200°F	71-93°C 160-200°F	71-93°C 160-200°F

*Optional on gas units
Materials of Construction: 304 SS...Carbon Steel, Urethane Finish

Gas train components are IRI and FM approved, dryers are AGA approvable. European dryers meet the EC Directive including VDE electrical and CE approved gas valve.







Cake breaker bars in the receiving hopper ensure material is fed to the extruder.

The extruder forces cake through the holes in the stainless steel screen, producing pellet-like particles with maximum surface area for drying.

J-Mate® Batch Dryers

Designed for low-volume applications, the patented J-Mate® batch dryer features a closed loop cake dehydration system with no heating elements. Air is circulated through the filter cake. Moisture in the air, which has been extracted from the dewatered cake, is condensed. The dry air is then reintroduced to the cake in a continuous closed loop cycle that virtually eliminates emissions. This unique, low-temperature process is ideal for organic cake material and material which may emit unwanted fumes when exposed to heat. Heavy duty construction, along with important operating features, make the J-Mate® batch dryer an effective, easy-to-use method to remove costly filter cake moisture.

The Energy Efficient, Easy-To-Use, Closed Loop Solution

- Rapid payback.
- Ruggedly built for long service life ... contains few moving parts.
- Low energy requirements.
- Automatic processing cycle for minimal operator attendance.
- Automatic adjustable timer for cycle completion.
- Rugged fabricated galvanneal steel construction with urethane finish.
- Closed loop with no planned air emissions.
- Multiple coil dehumidification system with air blower and air filtration element.
- Refrigerant pressure safety switches.
- End cycle audible alarm.
- Specially designed mobile dumpster of painted carbon steel.
- Constructed to UL standards.

The J-Mate® batch dryer removes up to 50 lbs of cake moisture per hour.

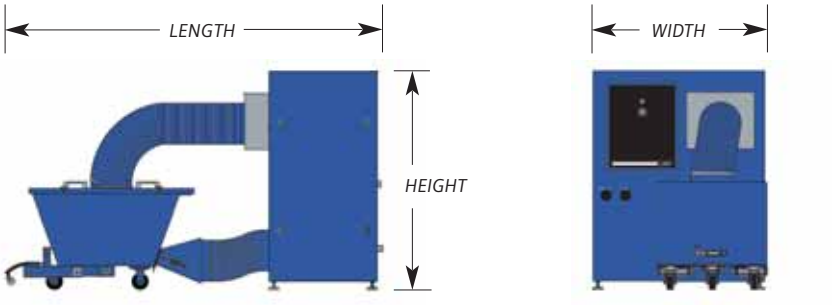
Optional Features

- 304 stainless steel dumpster.
- Stepdown transformer for 460 volt power source.
- Variety of dumpster configurations.

Specifications: J-Mate® Batch Dryers

	J-201		J-203		J-205		J-210	
EVAPORATIVE CAPACITY								
	6.7 lbs/hr	70 L/day	14.3 lbs/hr	150 L/day	22 lbs/hr	230 L/day	49.7 lbs/hr	520 L/day
ELECTRICAL REQUIREMENTS								
Frequency	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
Phase	1	1	3	3	3	3	3	3
Power/Kilowatts	2.7	2.0	4.4	2.5	8.3	5	15.0	9.9
Voltage	240 VAC	220 VAC	240 VAC	400 VAC	240 VAC	400 VAC	240 VAC	400 VAC
Current	14 Amps	11 Amps	17 Amps	9 Amps	25 Amps	14 Amps	45 Amps	30 Amps
BASE MACHINE DIMENSIONS								
Width	41.3″	1050 mm	41.3″	1050 mm	50.3″	1280 mm	65.3″	1660 mm
Depth	33.2″	845 mm	33.2″	845 mm	39.3″	1000 mm	39.3″	1000 mm
Height	53″	1345 mm	63.4″	1610 mm	71.4″	1815 mm	71.4″	1815 mm
Weight	500lbs	227KG	1100lbs	499KG	1600lbs	726KG	1700lbs	771KG
STYLE DUMPSTER DIMENSIONS								
STYLE I								
Width	26.4″	670 mm	48.4″	1230 mm	72.4″	1840 mm	NA	NA
Depth	37.7″	960 mm	43.9″	1115 mm	43.6″	1110 mm	NA	NA
Height	24″	610 mm	24″	610 mm	24″	610 mm	NA	NA
Cake Capacity	5 ft^3	140 L	11 ft^3	310 L	17 ft^3	480 L	NA	NA
STYLE II								
Width	NA	NA	46.4″	1180 mm	58.4″	1485 mm	NA	NA
Depth	NA	NA	37.6″	955 mm	43.6″	1110 mm	NA	NA
Height	NA	NA	31.5″	800 mm	31.5″	800 mm	NA	NA
Cake Capacity	NA	NA	11 ft^3	310 L	17 ft^3	480 L	NA	NA
STYLE III								
Width	NA	NA	30.4″	755 mm	40.4″	1025 mm	60.4″	1535 mm
Depth	NA	NA	38.4″	975 mm	41.6″	1055 mm	59.6″	1515 mm
Height	NA	NA	39.3″	1000 mm	39.3″	1000 mm	39.3″	1000 mm
Cake Capacity	NA	NA	11 ft^3	310 L	16.5 ft^3	470 L	37 ft^3	1050 L

Consult factory for electrical supply options.



For further information
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