MONSTER INDUSTRIAL®

SHRED SERIES
Industrial Shredders

www.jwce.com

Monster Industrial shredders are designed for difficult grinding jobs. They are used to reduce the size of waste, shred solids to improve process performance and destroy materials.

JWC Environmental's SHRED series are high-efficiency, dual-shafted shredders. These shredders are perfect for wet and dry applications. They come in various sizes to fit any application whether large or small. Multiple cutter options are available for each SHRED model to optimize the shredding process as well as yield the desired finished particle size. They can be used to reduce the size of waste, grind down solids to improve process performance and destroy expired, obsolete and non-compliant materials.

1-SHRED and 1-SHRED-2

The 1-SHRED family of compact shredders is tough on solids. They fit into areas with limited space while providing the necessary power to cut through tough food waste, small bones, or even occasional silverware. The 1-SHRED with a 3 hp (2.2 kW) motor is an ideal, low-cost solution that fits perfectly into farms and agribusinesses, food and animal processing plants, hotels, casinos, restaurants, ships and various other smaller volume applications. The 1-SHRED-2 has a 5 hp (3.7 kW) motor for 39% more cutting force when additional power is needed.

3-SHRED and 3-SHRED-2

The 3-SHRED family easily conditions tough solids that typically cause problems for other rotating and rendering equipment. Some application examples include drill cuttings, fish/seafood waste, food waste and much more. The 3-SHRED-2, with its 10 hp (7.5 kW) motor and severe-duty seals, applies twice the cutting force of our standard 3-SHRED for tougher applications.

4-SHRED-2

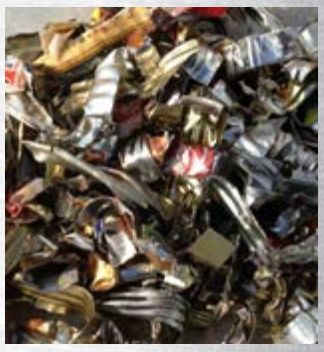
The 4-SHRED-2 is designed for harsher and higher-volume solids reduction applications. Strong shafts and severe-duty seals allow for high-impact solids loading, shredding items down to size. These shredders have been proven in numerous applications including shredding for recycling, preconditioning of organics for waste-to-energy operations and destruction of off-specification and contraband products.

7-SHRED-2

The 7-SHRED-2 is JWC's largest and most powerful grinder with the strongest shafts and severe duty seals for operating in the most demanding environments. This solution can be customized for maximum torque to grind hard solids or maximum throughput to grind softer materials. With multiple motor and reducer options, the grinder can provide the appropriate torque or throughput needed for the application.

Before and After

Oranges



Metal cans

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Features & Benefits

Dual-shafted shredder

- Low-speed, high-torque shredders handle rocks, wood, bone and other tough materials
- Shreds a wider variety of solids compared to single-shafted machines and macerators
- Mechanical seal cartridges designed for an industrial shock load and wet or dry operation[1]
- Requires less maintenance than other technologies

Compact and efficient design

- Adapts to many applications with little or no modification
- Custom hoppers and stands allow easy installation in processing facilities
- Integrated steel scrapers increase throughput and help cutters clean out faster
- Right-angle drive configurations available to minimize shredder footprint

Hardened steel cutters

- Exclusive cutters manufactured from forged alloy steel or stainless steel
- Available in various thicknesses and tooth combinations to optimize particle output
- Can reduce solids to 1/2″ (12 mm) or smaller particle size[2]

Automated monitoring and controls

- Load-sensing and reversal mechanism reduce interrupts and optimizes the shredder's performance
- Rotary disconnect with lock-out, emergency stop (e-stop) on panel and remote e-stop electrical connection for customer mounting

Torque overload fail-safe protection[3]

- Mechanical torque-limiting device decouples shaft from motor when torque exceeds specified limit to protect shaft from potential breakage
- Available as optional quick and easy resettable detent coupling[3]

Fits any application

- Wide range of shredder sizes to handle any application
- Multiple motor and reducer options to optimize performance
- Many cutter options to yield desired particle size

Complimentary grind test services

- Conducted at JWC's onsite state-of-the-art Grind Test Facility
- Check particle size and determine volume reduction capability
- Receive a detailed written report and video to ensure desired outcome

1. 1-SHRED and 3-SHRED utilize industrial mechanical seals. 3-SHRED-2, 4-SHRED-2 and 7-SHRED utilize severe-duty mechanical seals.
2. Particle size is dependent on feedstock and cutter configuration.
3. Only available on 3-SHRED-2, 4-SHRED-2 and 7-SHRED-2.

SHRED with right-angle drive

Custom stand and hopper

Optional resettable detent coupling

JWC Grind Test Facility

Sports balls

Plant root balls

Monster Industrial | **800.331.2277** | **jwce.com** | **jwce@jwce.com**

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A Sulzer Brand

SHRED Models

Shown with optional enclosed stand

Materials of Construction

Cutters, Spacers and Scrapers: Hardened alloy steel standard

Shafts: Hardened alloy steel

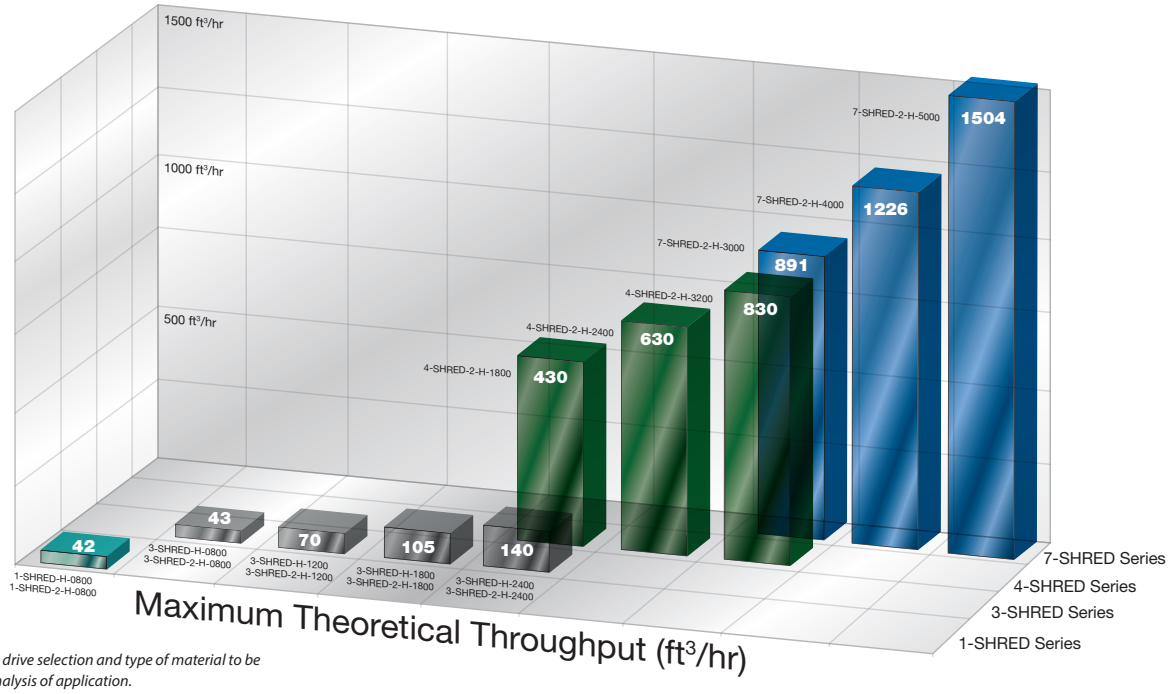
Grinder Body: Cast ductile iron standard

Mechanical Seals: Tungsten carbide faces

Hoppers and Stands: Stainless steel or alloy steel

SHRED Model	Cutter Diameter - inches (mm)	Shaft Hex Size - inches (mm)	Seal Type	Motor Options [1] - hp (kW)	Reducer Options [1, 2]	Torque Overload Protection
1-SHRED	4-3/4" (120 mm)	2" (50 mm)	Industrial mechanical seal cartridge	3 hp (2.2 kW)	29:1	Not available
1-SHRED-2	4-3/4" (120 mm)	2" (50 mm)	Severe-duty mechanical seal cartridge	5 hp (4 kW)	29:1	Not available
3-SHRED	4-3/4" (120 mm)	2" (50 mm)	Industrial mechanical seal cartridge	5 hp (4 kW)	29:1	Not available
3-SHRED-2	4-3/4" (120 mm)	2" (50 mm)	Severe-duty mechanical seal cartridge	10 hp (7.5 kW)	29:1	Detent coupling optional
4-SHRED-2	7-1/2" (191 mm)	2-1/2" (64 mm)	Severe-duty mechanical seal cartridge	15 hp (11 kW)	43:1	Detent coupling optional
				25 hp (18.5 kW)	29:1	
				40 hp (30 kW)	17:1	
7-SHRED-2	10" (254 mm)	4" (102 mm)	Severe-duty mechanical seal cartridge	30 hp (22 kW)	87:1	Detent coupling optional
				60 hp (45 kW)	59:1	
				75 hp (55 kW)	43:1	
				100 hp (75 kW)	29:1	

1. List of common motor and reducer combinations. Please consult factory for other combinations.
2. Reducer ratios are for 60 Hz power. Please consult factory for reducer ratios for 50 Hz power.



Note: Actual throughput depends on drive selection and type of material to be shredded. Consult factory for final analysis of application.

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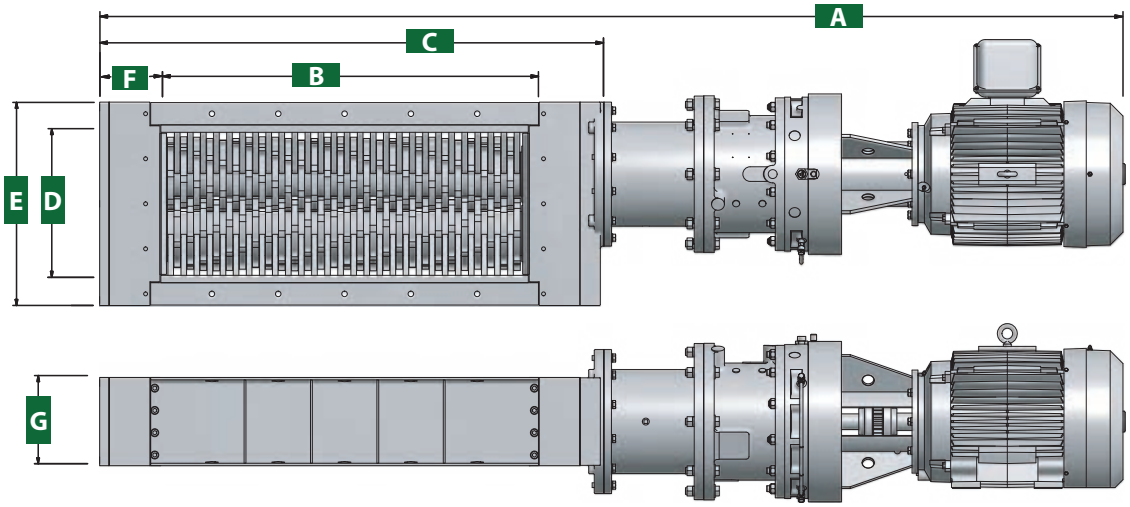


SHRED Model	Theoretical Throughput - ft³/hr (m³/hr) [1]	Full Load Torque - lb-ft (N-m)	Standard Dimensions - inches (mm) A	B	C	D	E	F	G	Approximate Net Weight - lbs (kg) [7]
1-SHRED-H-0800 [2]	38 (1.1)	254 (344)	44-1/8 (1120)	7-1/4 (185)	18-3/4 (476)	8-3/4 (222)	12 (305)	4-1/2 (114)	8-1/4 (210)	398 (181)
1-SHRED-2-H-0800 [3]	39 (1.1)	423 (574)	44-5/8 (1133)	7-1/4 (185)	18-3/4 (476)	8-3/4 (222)	12 (305)	4-1/2 (114)	8-1/4 (210)	418 (190)
3-SHRED-H-0800 [3]	40 (1.1)	423 (574)	48-5/8 (1235)	8 (203)	20-1/2 (521)	8-3/4 (222)	12 (305)	6-3/8 (162)	7 (178)	445 (202)
3-SHRED-H-1200 [3]	66 (1.9)	423 (574)	53 (1346)	12 (305)	24-7/8 (632)	8-3/4 (222)	12 (305)	6-3/8 (162)	7 (178)	464 (210)
3-SHRED-H-1800 [3]	98 (2.8)	423 (574)	59 (1499)	18 (457)	30-7/8 (784)	8-3/4 (222)	12 (305)	6-3/8 (162)	7 (178)	525 (238)
3-SHRED-H-2400 [3]	131 (3.7)	423 (574)	65-1/8 (1654)	24 (609)	36-5/8 (932)	8-3/4 (222)	12 (305)	6-3/8 (162)	7 (178)	581 (264)
3-SHRED-2-H-0800 [4]	43 (1.2)	846 (1147)	57-9/16 (1462)	6-3/4 (171)	20-1/4 (514)	8-11/16 (221)	12 (305)	6-3/4 (171)	7 (178)	588 (267)
3-SHRED-2-H-1200 [4]	70 (2.0)	846 (1147)	59-15/16 (1522)	10-7/8 (276)	22-5/8 (575)	8-11/16 (221)	12 (305)	6-3/4 (171)	7 (178)	607 (275)
3-SHRED-2-H-1800 [4]	108 (3.1)	846 (1147)	65-15/16 (1674)	16-7/8 (429)	28-5/8 (727)	8-11/16 (221)	12 (305)	6-3/4 (171)	7 (178)	668 (303)
3-SHRED-2-H-2400 [4]	141 (4.0)	846 (1147)	71-9/16 (1817)	21-1/8 (537)	34-1/4 (870)	8-11/16 (221)	12 (305)	6-3/4 (171)	7 (178)	724 (328)
4-SHRED-2-H-1800 [5]	197 (5.6)	1882 (2551)	79-1/32 (2007)	15-9/16 (396)	30-7/8 (784)	14-15/16 (379)	19-3/8 (492)	7-9/16 (193)	11 (279)	1600 (726)
4-SHRED-2-H-2400 [5]	284 (8.0)	1882 (2551)	86-5/32 (2188)	22-11/16 (576)	38 (965)	14-15/16 (379)	19-3/8 (492)	7-9/16 (193)	11 (279)	1784 (809)
4-SHRED-2-H-3200 [5]	393 (11.1)	1882 (2551)	93-19/32 (2377)	30-3/16 (767)	45-7/16 (1154)	14-15/16 (379)	19-3/8 (492)	7-9/16 (193)	11 (279)	1987 (901)
7-SHRED-2-H-3000 [6]	282 (8.0)	7615 (10,325)	112-1/8 (2848)	28-5/8 (727)	48-1/2 (1232)	21 (533)	27-3/8 (695)	9 (229)	11-7/8 (302)	4345 (1971)
7-SHRED-2-H-4000 [6]	387 (11.0)	7615 (10,325)	122-11/16 (3117)	39-3/16 (995)	59-1/16 (1500)	21 (533)	27-3/8 (695)	9 (229)	11-7/8 (302)	4787 (2171)
7-SHRED-2-H-5000 [6]	475 (13.5)	7615 (10,325)	131-1/2 (3340)	48 (1219)	67-7/8 (1723)	21 (533)	27-3/8 (695)	9 (229)	11-7/8 (302)	5231 (2373)

1. Theoretical throughput with 7-tooth cutter. Actual throughput depends on the type of material to be shredded. Consult factory for final analysis of application.
2. Drive dimensions (max) and performance are based on a unit with a TEFC 3 hp (2.2 kW), 29:1 gear reduction ratio drive assembly.
3. Drive dimensions (max) and performance are based on a unit with a TEFC 5 hp (3.7 kW), 29:1 gear reduction ratio drive assembly.
4. Drive dimensions (max) and performance are based on a unit with a TEFC 10 hp (7.5 kW), 29:1 gear reduction ratio drive assembly.
5. Drive dimensions (max) and performance are based on a unit with a Severe-duty TEFC 15 hp (11.2 kW), 43:1 gear reduction ratio drive assembly.
6. Drive dimensions (max) and performance are based on a unit with a Severe-duty TEFC 30 hp (22.3 kW), 87:1 gear reduction ratio drive assembly.
7. Weight includes grinder and motor assembly only.

3-SHRED

4-SHRED

1-SHRED-H
1-SHRED-2-H

3-SHRED-H
3-SHRED-2-H

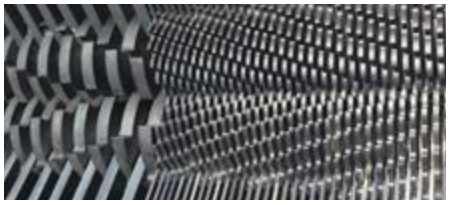
4-SHRED-2-H

7-SHRED-2-H

SHRED Models

Cutters

- Through-hardened alloy steel standard
- Stainless steel available on select cutters
- Integrated steel scrapers to improve performance
- Split cutter stack configuration available on units 18" (457 mm) and longer. Two different cutter styles in a single stack produce two different particle sizes with single unit.



Split cutter stack

	Description [1]	Characteristics
	3-tooth	Self-metering; very coarse shred
	7-tooth	Aggressive, general-purpose cutter; coarse shred
	11-tooth	General-purpose cutter; yields medium particle size

	Description [1]	Characteristics
	13-tooth	Thin cutter for fine particle size
	17-tooth	Even feed; relatively fine shred
	23-tooth	Very thin cutter for smallest particle size

1. Cutter thickness varies depending on model. Not all cutter configurations are available on all models.

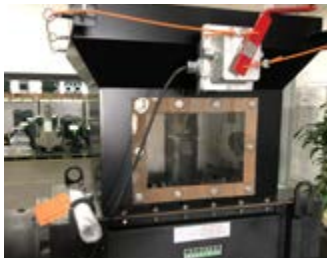
Hoppers & Stands

- Custom-made to fit application
- Optional integrated safety features
  - Open hoppers with safety pull cord
  - Enclosed hoppers with labyrinth design
  - Polycarbonate viewing windows in hopper
  - Discharge chutes
- Stands with optional controller mount
- Available in carbon steel, AISI 304 stainless steel or AISI 316 stainless steel

Custom hopper and stand with mounted controller

4-SHRED-H with custom hopper and discharge chute

Custom hopper and stand with mounted controller



Custom hopper with viewing window and safety pull cord

Drives

Electric motor options

- TEFC: Totally enclosed fan-cooled electric
  - 1-SHRED and 1-SHRED-2
  - 3-SHRED and 3-SHRED-2
- Severe-duty TEFC: Severe-duty totally enclosed fan-cooled electric
  - 4-SHRED-2
  - 7-SHRED-2
- XPFC: Explosion-proof fan-cooled electric
  - 1-SHRED and 1-SHRED-2
  - 3-SHRED and 3-SHRED-2
  - 4-SHRED-2
  - 7-SHRED-2
- Washdown
  - 3-SHRED and 3-SHRED-2
  - 4-SHRED-2 at select power
- Optional right-angle motor configurations available with select motors

Standard electric motor

Hydraulic power pack options

- Available for 3-SHRED 15 hp (11 kW)

Optional hydraulic motor with or without a hydraulic power pack

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PLC Machine Controllers

- Load-sensing control system automatically reverses to clear jams
- NEMA-4X FRP enclosure with 3-position switch, status indicators, jog/reverse button, e-stop on enclosure face, remote e-stop electrical connection for customer mounting, disconnect and short circuit protection standard with 1-SHRED, 1-SHRED-2, 3-SHRED, 3-SHRED-2, and 4-SHRED-2
- Stainless steel enclosure with operator interface terminal (OIT) for remote troubleshooting, e-stop, disconnect and short circuit protection standard with 7-SHRED-2
- Custom controller options and housings available
- UL registered

Model PC2220DS standard enclosure

SHRED Applications Include:

Oil and Gas

- Drilling mud recycling
- Tank bottom cleaning

Food and Beverage

- Particle size reduction
- Waste volume reduction
- Food grinding
- Spoiled food destruction

Office Buildings / Hospitality

- Organic waste size reduction for zero waste programs
- Contraband destruction
- Waste destruction

Chemical / Fine Chemical

- Product reclamation
- Wastewater processing

Renewable Energy

- Biodiesel processing
- Precondition feedstock for waste-to energy
- Grease receiving processing
- Sludge processing

Agriculture

- Biogas digester
- Waste-to-energy
- Seed destruction
- Agriculture waste-volume reduction
- Precondition hemp to optimize extraction process

Marine / Maritime

- Fish waste grinding
- Solid waste volume reduction
- MARPOL onboard food waste disposal

Manufacturing

- Destruction of nonconforming products
- Zero waste / recycling

Since its founding in 1973, JWC Environmental has become a world leader in solids reduction and removal systems. For municipal wastewater collections, headworks and bio-solids operations we offer our legendary Muffin Monster grinders and Monster Separation Screening systems to solve unique processing situations.

JWC Environmental also supports commercial and industrial applications with our Monster Industrial, and IPEC products. We are ready to take on challenging size reduction problems in industrial processes as well as help customers run efficient and compliant industrial wastewater treatment operations.

JWC Environmental is headquartered in Santa Ana, California, and has a global network of representatives, distributors and regional service centers to provide customer support. For more information, visit us at www.jwce.com.

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