



# PATRIOT® CONE CRUSHER

Secondary or Tertiary Crusher For Aggregate and Mining Applications.

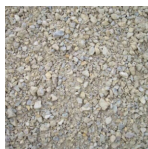
## FEATURES

- » Standard lifetime warranty protects costliest components.
- » Backed by eager service team who respond quickly.
- » High-grade steel components, which exceed industry standards.
- » Committed to large inventory of parts for fast deliveries.

## APPLICATIONS



Ore/Hard  
Rock Mining



Quarried  
Stone



River  
Gravel



Recycle  
Concrete



Fractured  
Gravel



Cubical  
products

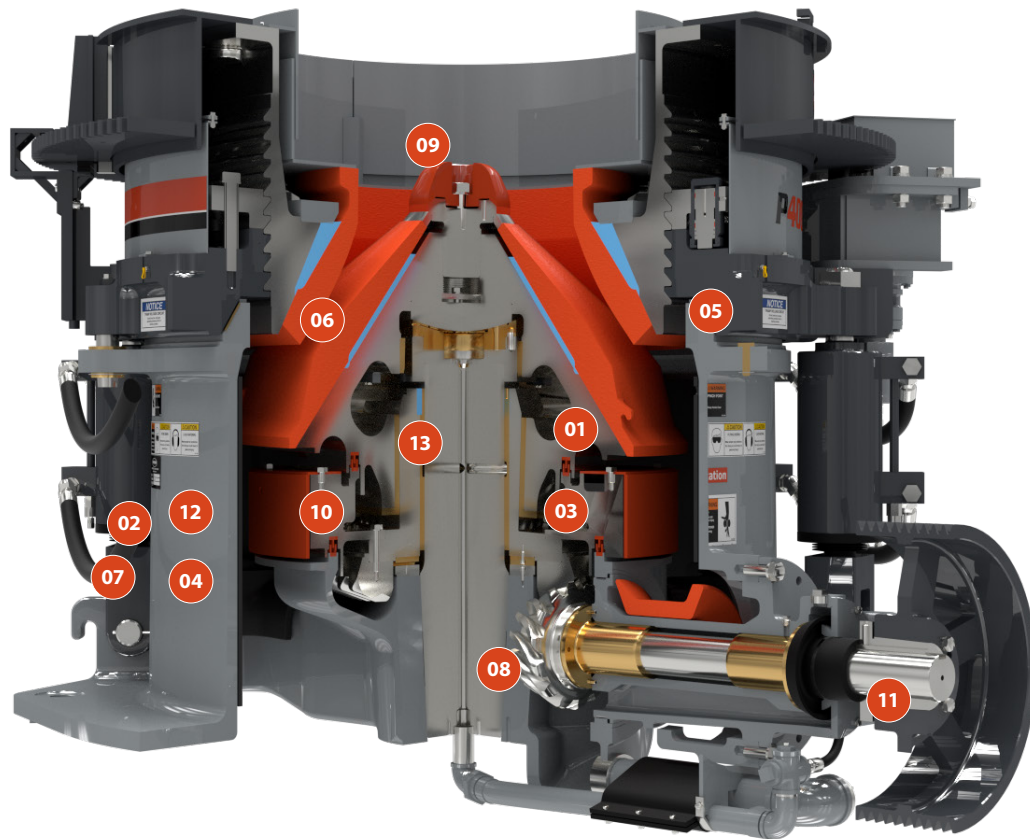


Super Pave  
Products

Wheeled   
Stationary 

Rock Face to Load Out®





**01/ RAISED CONE HEAD SEATING SURFACE**

Machined surface can be reconditioned up to 3X without need for additional welding.

**02/ INVERTED TRAMP RELIEF CYLINDERS**

Reverse design ensures hydraulic seal is not exposed to contamination during operation.

**03/ URETHANE “U” & “T” SEALS**

Opposed to steel, this non-contact seal blocks dust better, wears slower and takes less time to replace.

**04/ MAINFRAME INSPECTION PORTS (P200, P500, P600)**

Simplify access to mainframe for inspections.

**05/ REPLACEABLE SEAT LINERS**

Bronze liners protect mainframe and adjustment ring from wear.

**06/ UNIVERSAL CRUSHING CHAMBER**

Other than minor wear parts, design requires no major changeouts when transitioning from secondary and tertiary applications.

**07/ TRAMP RELIEF SYSTEM**

Designed with fewer accumulators for less maintenance and failure points. Automatic pressure relief valve adds additional protection.

**08/ SPIRAL TOOTH GEARING**

Proven to perform at higher speeds while causing less vibration and noise.

**09/ HIGH PIVOT POINT GEOMETRY**

Movement of feedplate creates a more active feed opening, drawing more material into cavity with fewer plugs.

**10/ ENCLOSED COUNTERWEIGHT**

Protects against the flow of material, which allows crusher to maintain balance. Guard provides additional wear protection.

**11/ COUNTERCLOCKWISE COUNTERSHAFT**

If loss of clamping pressure, this unique rotation causes crusher to open rather than turn down, tighten and cause significant damage.

**12/ ONE PIECE CAST MAINFRAME**

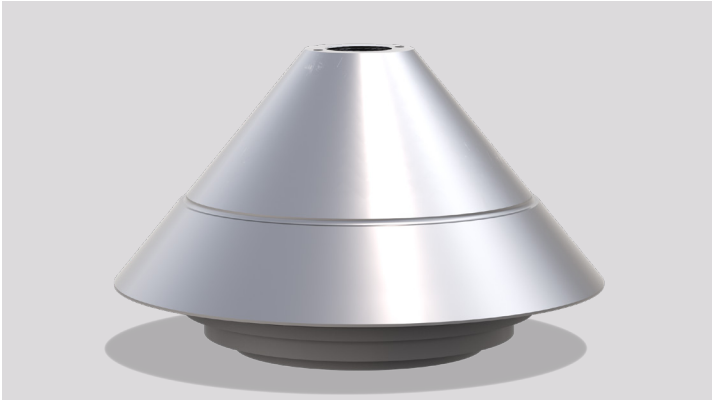
Removes any welding for highest possible strength and durability.

**13/ ECCENTRIC & CLAMP RING**

Manufactured with ductile iron which has higher tensile and fatigue strength, resists fracturing and is more impact resistant.

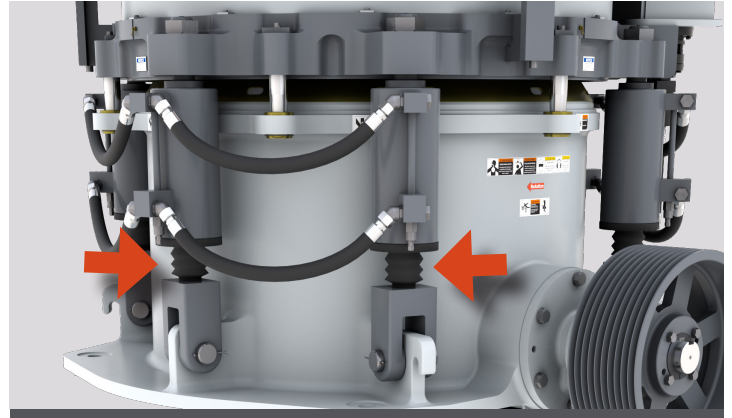


## HIGHLIGHTS



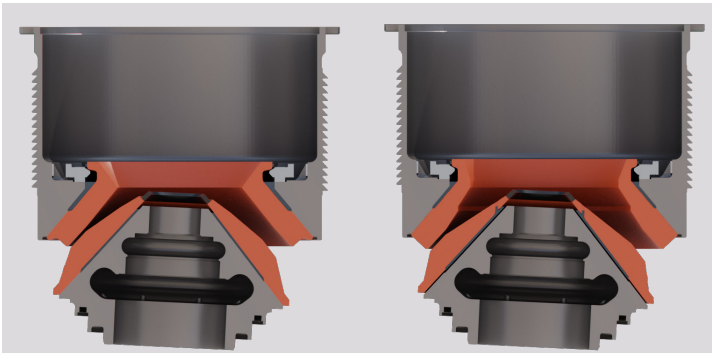
**01/ RAISED CONE HEAD SEATING SURFACE**

- » Allows reconditioning of head seating surface



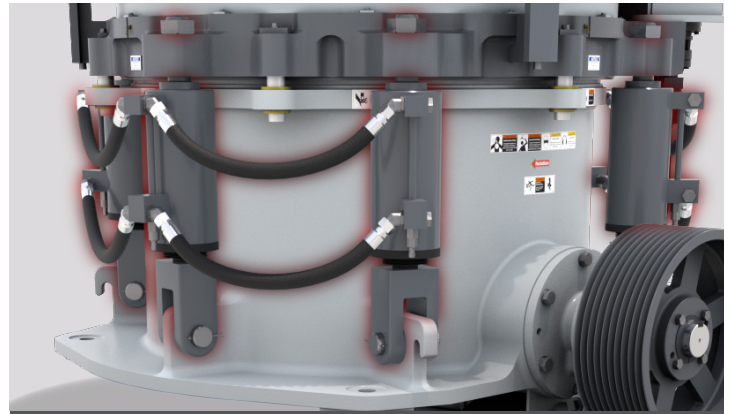
**02/ INVERTED TRAMP RELIEF CYLINDERS**

- » Reverse design ensures hydraulic seal is not exposed to contamination during operation



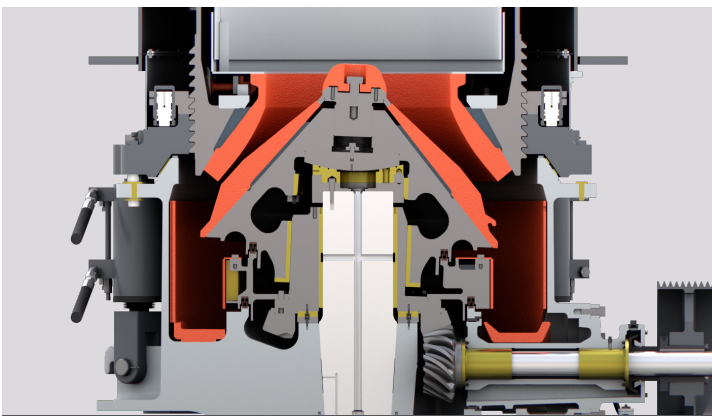
**06/ UNIVERSAL CRUSHING CHAMBER**

- » Application flexibility from secondary to tertiary



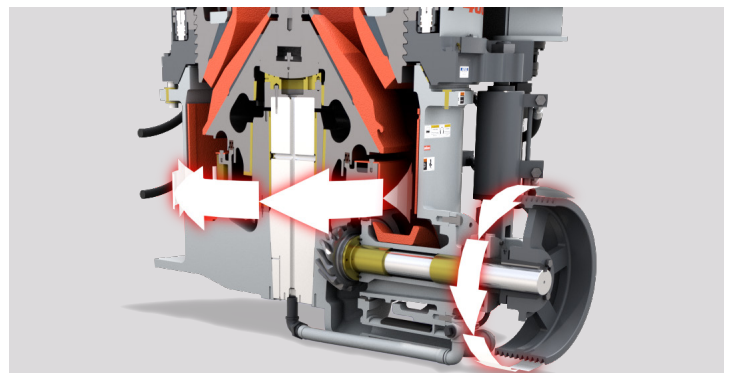
**07/ TRAMP RELIEF SYSTEM**

- » Reduce maintenance and points of failure with fewer accumulators



**09/ HIGH PIVOT POINT GEOMETRY**

- » Greater volumetric head displacement



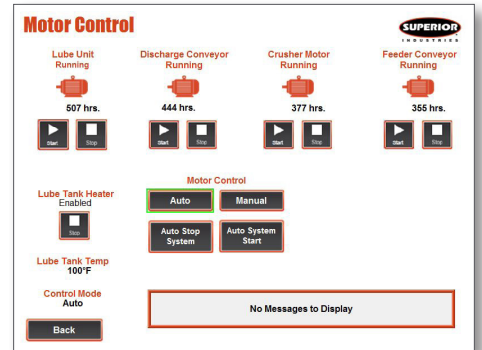
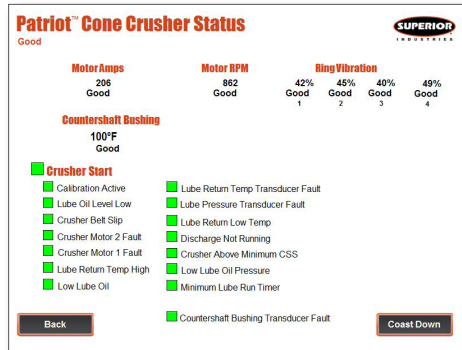
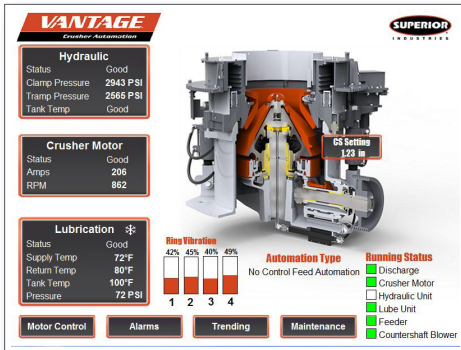
**11/ COUNTERCLOCKWISE COUNTERSHAFT**

- » Prevents catastrophic damage



- » One button auto-start or auto-stop motor control
- » Startup and shutdown system in correct sequence every time
- » No lengthy training, learn operation in minutes due to simple screen layout
- » Automatically maintain optimum production conditions
- » Alarms alert operators for conditions that need to be addressed
- » All critical data listed on operators page
- » Pre-assembled wiring for plug-and-play installation
- » In-House design means fast support and custom programs
- » Auto Level, power or adjust feature to maximize the crusher efficiency
- » Wintermode maintains lube temperature while crusher is not running

ASK YOUR SALES REPRESENTATIVE FOR AN IN-DEPTH PRESENTATION TO EXPERIENCE ALL THE CAPABILITIES OF VANTAGE® AUTOMATION.



**CAPABILITIES**

**TRACK TO IMPROVE EFFICIENCY**

- » Amperage draw
- » Closed side setting
- » Countershaft RPM
- » Lube system health
- » Hydraulics health
- » Historic alarms

**ALARMS FOR HARMFUL CONDITIONS**

- » Lube temp, pressure and level
- » Eccentric bushing temp
- » Hydraulic temp and level
- » Tramp and clamp pressures
- » Ring bounce
- » Bowl float
- » Over amperage

**PRECISE CONTROL**

- » Auto feed control
  - » Auto level control
  - » Auto power control
  - » Auto setting control
- » Lube heaters
- » Lube pump
- » Hydraulic pump
- » Oil cooler
- » Drive motor
- » Feeder

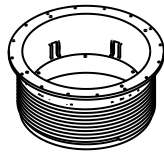
# PATRIOT® CONE CRUSHER LIFETIME WARRANTY

## LIMITED LIFETIME WARRANTY FOR MAJOR CRUSHER COMPONENTS

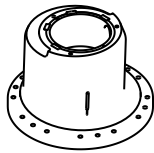
### MAJOR COMPONENTS COVERED



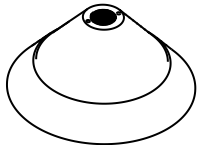
1. Adjustment Ring



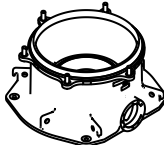
2. Bowl



3. Eccentric



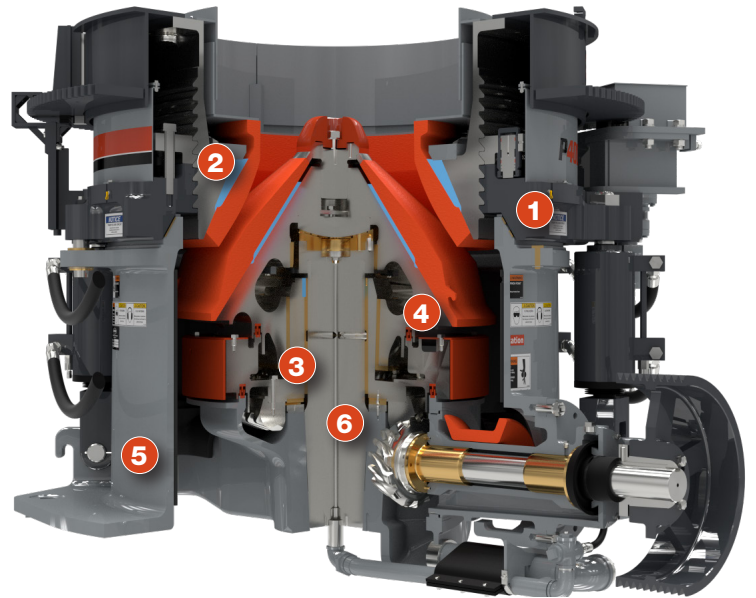
4. Head



5. Mainframe



6. Main Shaft



### WARRANTY REQUIREMENTS



- » Exclusive use of Superior parts
- » Paid inspection annually or every 2,000 hours
- » Presale application review
- » Vantage® Automation
- » Operation within design limits

### EXCLUSIONS

- » Damage from tramp metal, extended high power draw, misuse or improper maintenance
- » Damage from negligence or accidents
- » Labor, travel or freight costs associated with repairs or installation
- » Damage from unauthorized repairs, modifications or parts
- » Normal wear and tear
- » Non-utilization of Vantage Automation
- » Damage from plant downtime
- » Products rented or leased

*Terms and conditions apply. See warranty documentation for details.*



## SPECIFICATIONS

### GENERAL SPECIFICATIONS

	P200	P300	P400	P500	P600
Head Diameter (mm)	38" (970)	44" (1,117)	52" (1,320)	59" (1,500)	59" (1,500)
Weight (kg)	19,485 lbs. (8,838)	35,340 lbs. (16,029)	53,200 lbs. (24,130)	73,000 (32,112)	112,685 lbs. (51,113)
Recommended HP (kw)	200 (150)	300 (225)	400 (300)	500 (375)	500 (372) / 600 (450)
Max Feed Opening (mm)	9.3" (236)	10.6" (270)	12.2" (310)	12.75" (324)	14.0" (356)
Operating Speed	750 -1,200 rpm	700 -1,200 rpm	700 -1,000 rpm	960 -1400 rpm	960 -1,400 rpm
Stroke/Head Throw (mm)	3" (77)	3.3" (83)	3.82" (97)	5.3" (134)	5.3" (134)
Tramp Relief Accumulators	1	1	1	2	2

### CAPACITY CHART

Setting inch (mm)	P200		P300		P400		P500		P600	
	Min Capacity TPH (MTPH)	Max Capacity TPH (MTPH)	Min Capacity TPH (MTPH)	Max Capacity TPH (MTPH)	Min Capacity TPH (MTPH)	Max Capacity TPH (MTPH)	Min Capacity TPH (MTPH)	Max Capacity TPH (MTPH)	Min Capacity TPH (MTPH)	Max Capacity TPH (MTPH)
5/16" (8.0)	75 (68)	100 (91)	-	-	-	-	-	-	-	-
3/8" (10.0)	95 (86)	135 (123)	135 (123)	180 (163)	140 (127)	200 (181)	180 (163)	250 (226)	215 (195)	300 (272)
1/2" (13.0)	130 (118)	170 (154)	160 (145)	220 (200)	195 (177)	250 (227)	250 (226)	315 (285)	280 (254)	355 (322)
5/8" (16.0)	145 (132)	215 (195)	190 (172)	260 (236)	235 (213)	300 (272)	300 (272)	375 (340)	340 (308)	420 (381)
3/4" (19.0)	170 (154)	220 (200)	210 (191)	300 (272)	265 (240)	340 (308)	350 (317)	435 (394)	390 (354)	480 (436)
7/8" (22.0)	180 (163)	230 (209)	230 (209)	335 (304)	290 (263)	375 (340)	370 (335)	465 (422)	415 (377)	520 (472)
1" (25.0)	190 (172)	245 (222)	245 (222)	365 (331)	310 (281)	415 (377)	400 (363)	505 (458)	450 (408)	560 (508)
1-1/4" (32.0)	205 (186)	265 (240)	265 (240)	400 (363)	340 (309)	465 (422)	450 (408)	555 (503)	500 (454)	610 (553)
1-1/2" (38.0)	220 (200)	285 (259)	320 (290)	445 (404)	375 (340)	525 (476)	530 (480)	640 (581)	560 (508)	675 (612)
1-3/4" (45.0)	250 (227)	310 (281)	365 (331)	500 (454)	430 (390)	580 (526)	575 (521)	720 (653)	640 (581)	805 (730)
2" (51.0)	270 (245)	340 (308)	400 (363)	540 (490)	480 (436)	640 (581)	655 (594)	800 (725)	690 (626)	820 (744)

All capacities are based on a bulk density of 100 lbs. per cu. ft. and a work index of 13.

Projected crusher capacities are based on a material having a work index of 12-14, with a bulk density of 100 lbs/ft<sup>3</sup> (1.6 mt/m<sup>3</sup>). The feed grading must have less than 10% passing the crusher setting. The crusher drive assemblies are to be maintained in good working order with the ability to apply all available horsepower without drive belt slippage. Plant installation to ensure the crusher is able to operate continuously consuming the FLA rating of the motor(s) with the equipment able to accept and discharge material freely. For secondary cone crusher applications to be used in closed circuit applications consult Superior for capacity adjustments.

## PORTABLE CRUSHING PLANTS



**P200 REAR FEED, REAR DISCHARGE PLANT**



**CLOSED CIRCUIT PORTABLE CONE/SCREEN PLANT**

## LINER SELECTION

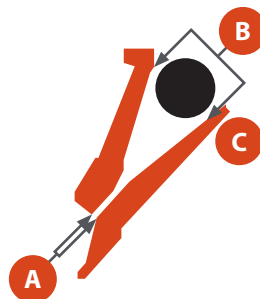
	Horsepower hp (kW)	Head Diameter inch (mm)	Weight lbs. (kg)	Cavity	(A) Nominal CSS Range inch (mm)	(B) Max Feed Open inch (mm)	(C) Max Feed Size inch (mm)
P200	200 (149)	38" (965)	19,500 (8,838)	Standard Coarse	0.75" - 2.0" (19 - 50)	9.0" (228)	7.2" (182)
				Standard Medium	0.625" - 2.0" (15 - 50)	7.6" (193)	6.1" (154)
				Standard Fine	0.625" - 1.75" (15 - 44)	6.6" (167)	5.3" (134)
				Short Head Coarse	0.5" - 1.5" (12 - 38)	5.7" (144)	4.0" (101)
				Short Head Medium	0.375" - 1.25" (9 - 31)	5.0" (127)	3.2" (81)
				Short Head Fine	0.375" - 1.25" (9 - 31)	4.2" (106)	2.3" (58)

	Horsepower hp (kW)	Head Diameter inch (mm)	Weight lbs. (kg)	Cavity	(A) Nominal CSS Range inch (mm)	(B) Max Feed Open inch (mm)	(C) Max Feed Size inch (mm)
P300	300 (223)	44" (1,117)	35,340 (16,029)	Standard Extra Coarse	1.0" - 2.0" (25 - 50)	11.7" (297)	9.4" (238)
				Standard Coarse	0.875" - 2.0" (22 - 50)	10.8" (274)	8.6" (218)
				Standard Medium	0.75" - 2.0" (19 - 50)	9.2" (233)	7.4" (187)
				Standard Fine	0.625" - 1.75" (15 - 44)	8.0" (203)	6.4" (162)
				Short Head Coarse	0.5" - 1.5" (12 - 38)	7.6" (193)	6.1" (154)
				Short Head Medium	0.375" - 1.25" (9 - 31)	5.4" (137)	3.7" (93)
				Short Head Fine	0.375" - 1.25" (9 - 31)	3.9" (99)	2.0" (50)

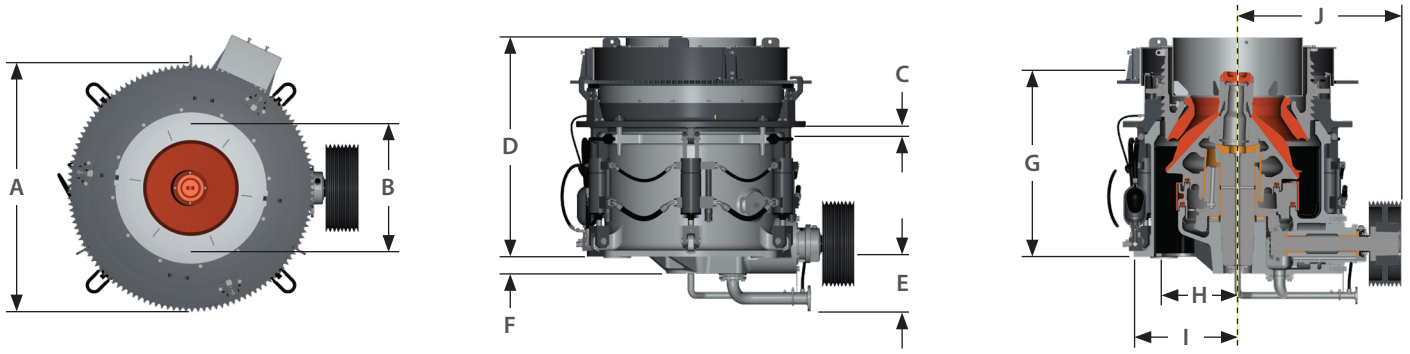
	Horsepower hp (kW)	Head Diameter inch (mm)	Weight lbs. (kg)	Cavity	(A) Nominal CSS Range inch (mm)	(B) Max Feed Open inch (mm)	(C) Max Feed Size inch (mm)
P400	400 (298)	52" (1,320)	53,000 (24,040)	Standard Coarse	0.875" - 2.0" (22 - 50)	13.3" (337)	10.6" (269)
				Standard Medium	0.75" - 2.0" (19 - 50)	10.9" (276)	8.7" (220)
				Standard Fine	0.625" - 1.75" (15 - 44)	8.8" (223)	7.0" (177)
				Short Head Coarse	0.5" - 1.5" (12 - 38)	7.6" (193)	5.8" (147)
				Short Head Medium	0.375" - 1.25" (9 - 31)	6.0" (152)	4.1" (104)
				Short Head Fine	0.375" - 1.25" (9 - 31)	4.8" (121)	2.7" (68)

	Horsepower hp (kW)	Head Diameter inch (mm)	Weight lbs. (kg)	Cavity	(A) Nominal CSS Range inch (mm)	(B) Max Feed Open inch (mm)	(C) Max Feed Size inch (mm)
P500	500 (372)	59" (1,498)	75,000 (34,019)	Standard Coarse	1.0" - 2.0" (25 - 50)	13.5" (342)	10.8" (274)
				Standard Medium	0.875" - 2.0" (22 - 50)	11.3" (287)	9.0" (228)
				Standard Fine	0.75" - 1.75" (19 - 44)	8.2" (208)	6.6" (167)
				Short Head Coarse	0.625" - 1.5" (15 - 38)	7.2" (182)	4.6" (116)
				Short Head Medium	0.5" - 1.25" (12 - 31)	6.0" (152)	3.3" (83)
				Short Head Fine	0.375" - 1.25" (9 - 31)	5.4" (137)	2.6" (66)

	Horsepower hp (kW)	Head Diameter inch (mm)	Weight lbs. (kg)	Cavity	(A) Nominal CSS Range inch (mm)	(B) Max Feed Open inch (mm)	(C) Max Feed Size inch (mm)
P600	600 (447)	59" (1,498)	112,685 (51,113)	Standard Extra Coarse	1.0" - 2.0" (25 - 50)	14.8" (375)	11.8" (299)
				Standard Coarse	1.0" - 2.0" (25 - 50)	13.0" (330)	10.4" (264)
				Standard Medium	0.875" - 2.0" (22 - 50)	12.1" (307)	9.7" (246)
				Standard Fine	0.75" - 1.75" (19 - 44)	10.5" (266)	8.4" (213)
				Short Head Coarse	0.625" - 1.5" (15 - 38)	10.5" (266)	8.2" (208)
				Short Head Medium	0.5" - 1.25" (12 - 31)	8.7" (220)	6.1" (154)
				Short Head Fine	0.375" - 1.25" (9 - 31)	8.0" (203)	5.6" (142)



## SPECIFICATIONS



### CONE CRUSHER DIMENSIONS

	Description	P200	P300	P400	P500	P600
A	Adjustment Ring Maximum Diameter	67" (1,700)	92" (2,336)	118-1/2" (3,012)	110" (2,794)	122" (3,098)
B	Inside Diameter Feed Hopper	38" (965)	42-1/2" (1,079)	51-1/2" (1,308)	63" (1,600)	69-3/16" (1,758)
C	Tramp Release Stroke	4-3/16" (107)	4" (101)	4" (101)	6-3/4" (172)	8" (203)
D	Height of Base to Top of Feed Hopper	64" (1,627)	72" (1,828)	79-1/8" (2,010)	94" (2,388)	113-1/8" (2,873)
E	Base to Bottom of Oil Piping	13-1/2" (342)	13" (330)	8-1/2" (217)	16" (407)	28" (708)
F	Base to Bottom of Mainframe Hub	4-1/2" (114)	7-1/2" (190)	2-5/16" (59)	9-1/2" (241)	13" (330)
G	Base to Top of Feed Plate	58-1/2" (1,485)	54-1/2" (1,384)	63" (1,601)	70" (1,778)	82-1/2" (2,094)
H	Inner Flange Minimum Radius	23-3/8" (593)	29-3/8" (746)	34-1/2" (876)	39-1/2" (1003)	33-1/2" (850)
I	Outer Maximum Radius	30" (762)	44-1/2" (1,130)	47-1/2" (1,207)	51" (1,296)	55-1/8" (1,400)
J	Crusher Centerline to End of Countershaft Assembly	47-5/8" (1,209)	53-3/4" (1,365)	64-5/8" (1,642)	60" (1,524)	78-1/4" (1,987)

### INSTALLATION DIMENSIONS

Description	P200	P300	P400	P500	P600
Counter Shaft Removal Clearance	66-3/4" (1,695)	45" (1,143)	96-1/4" (2,443)	105" (2,667)	124-7/16" (3,159)
Bowl Removal Clearance from Bottom of Hub	95-1/4" (2,419)	101-1/2" (2,578)	101-5/16" (2,573)	131" (3,327)	176-1/8" (4,473)
Head Assembly Removal Clearance from Bottom of Hub	101-1/8" (2,568)	97" (2,463)	102-5/16" (2,599)	141" (3,581)	167-1/8" (4,244)

### PERCENT PASSING FOR A GIVEN CLOSED SIDE SETTING - AVERAGE FEED MATERIAL (12-14WI)

Product Size	3/8"		1/2"		5/8"		3/4"		7/8"		1"		1-1/4"		1-1/2"		2"	
	in	mm	10 mm	13 mm	16 mm	19 mm	22 mm	25 mm	31 mm	38 mm	50 mm							
4"	100.0																	100.0
3"	75.0																100.0	96.0
2-1/2"	63.0													100.0		97.0		89.0
2"	50.0											100.0		98.0		90.0		71.0
1-3/4"	45.0									100.0		99.0		95.0		83.0		60.0
1-1/2"	38.0						100.0		99.0			96.0		88.0		72.0		49.0
1-1/4"	31.0					100.0		99.0		96.0		90.0		74.0		55.0		39.0
1"	25.0			100.0		99.0		95.0		86.0		76.0		56.0		41.0		30.0
7/8"	22.0	100.0		99.0		96.0		89.0		78.0		66.0		46.0		35.0		26.0
3/4"	19.0	99.0		96.0		90.0		79.0		68.0		57.0		38.0		30.0		22.0
5/8"	16.0	97.0		91.0		80.0		69.0		56.0		46.0		31.0		25.0		18.0
1/2"	13.0	92.0		81.0		69.0		57.0		45.0		36.0		26.0		20.0		15.0
3/8"	10.0	81.0		66.0		54.0		45.0		34.0		28.0		20.0		15.0		11.5
1/4"	6.0	58.0		45.0		36.0		30.0		24.0		19.0		14.0		11.0		8.0
4M	5.0	45.0		35.0		28.0		23.0		18.0		15.0		11.0		9.0		6.0
6M	3.0	33.0		26.0		21.0		17.0		13.0		11.0		8.0		6.0		4.0
(8M)	2.0	26.0		20.0		16.0		13.0		10.0		8.0		5.0		4.0		2.0