

One Source

# Raptor XL300 Cone Crushers



# Raptor® XL300

## Versatility, durability, operational security...

**Our Raptor® XL300 cone crushers deliver significantly higher production at lower costs to succeed against today's toughest economic challenges. And they're backed by the kind of responsive service and support you expect and deserve by a team of industry professionals with a combined 100+ years of crusher experience.**

### Superior Bronze Bearing Technology

Raptor Cone Crushers utilize bronze sleeve bearings for all internal moving components that are load bearing or involved in load transmission. FLSmidth's bronze technology is custom engineered to meet specific application demands including:

- **Countershaft Bushings** for operation over a wide range of speeds without bearing failure.
- **Thrust Bearings** to support the high performance rotating eccentric.
- **Head Bushing and Eccentric Bushings** which absorb normal operating loads and intermittent overloads such as tramp metal events.
- **Socket Liner** to provide support for the head and the dominant vertical loads encountered under normal operating conditions and tramp metal events.

### Structural Integrity

Raptor's critical load bearing components meet specifications that typically exceed what is commonly offered in a conventional cone crusher. Our major components are cast of high grade steel, and our eccentric material selection provides greater certainty of a reliable surface finish, even after many years of service.

### Mobility...

Because of our unique emphasis on high throw and high-pivot point crushing, the Raptor cone can be significantly more productive, versatile and mobile. The Raptor XL300 offers a mobile closed circuit plant. Productive and versatile, the

XL300 Cone Crusher is readily mounted and easily transportable on a portable cone/screen chassis.

### Versatility...

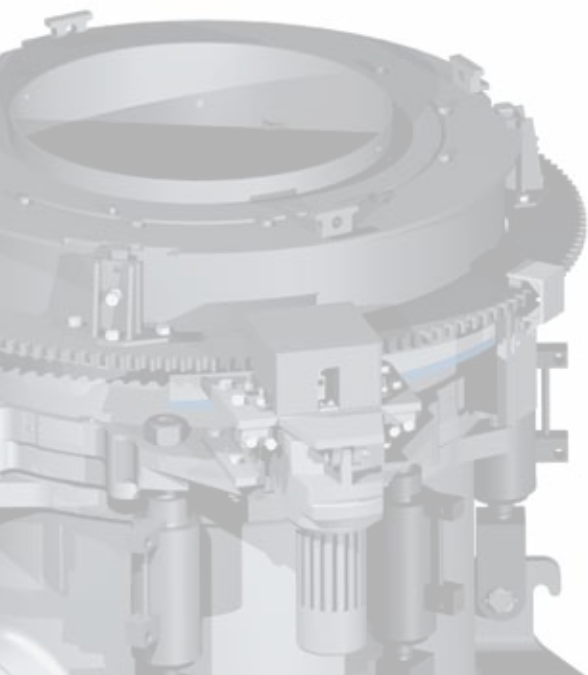
The Raptor cone crusher offers more flexibility in the production of high quality aggregates such as ballast, road base and asphalt chips. The Raptor cone has also earned a leading reputation in the mining industry, operating in some of the most demanding mineral processing applications worldwide.

### Security...

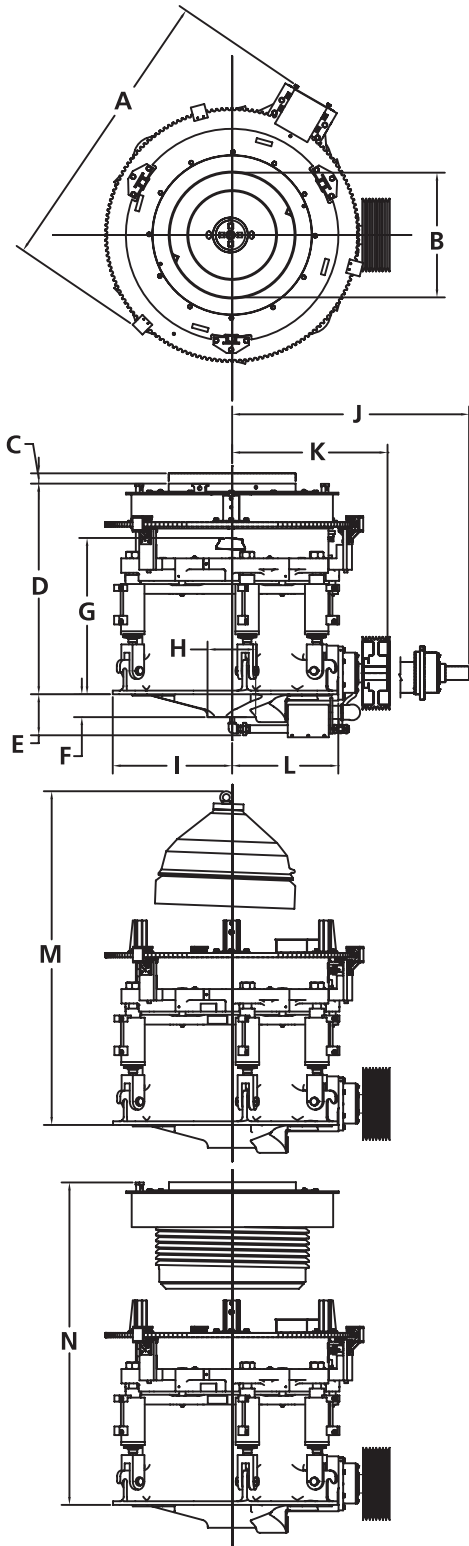
Raptor cone crushers employ "Fail Safe" hydraulics to ensure protection from mechanical overload should an accumulator bladder fail. Raptors require only one accumulator to operate safely and reliably. Should the accumulator fail, an internal relief valve within the dual acting tramp release cylinders provides immediate, alternate protection from severe and costly structural damage to the crusher. Another standard safety feature is the counterclockwise rotating crushing action. This prevents the machine from self-tightening the setting when adjustment ring movement is excessive, or if the ring gear brake fails.

### Automation...

Raptor cone crushers employ advanced overload sensing technology to detect crushing force overload. A simple alarm can be activated. If desired, our advanced automation system can take the necessary corrective action. The same advanced automation system can be used to optimize crusher performance with feed control, setting adjustment and monitoring of critical lubrication and hydraulic parameters.



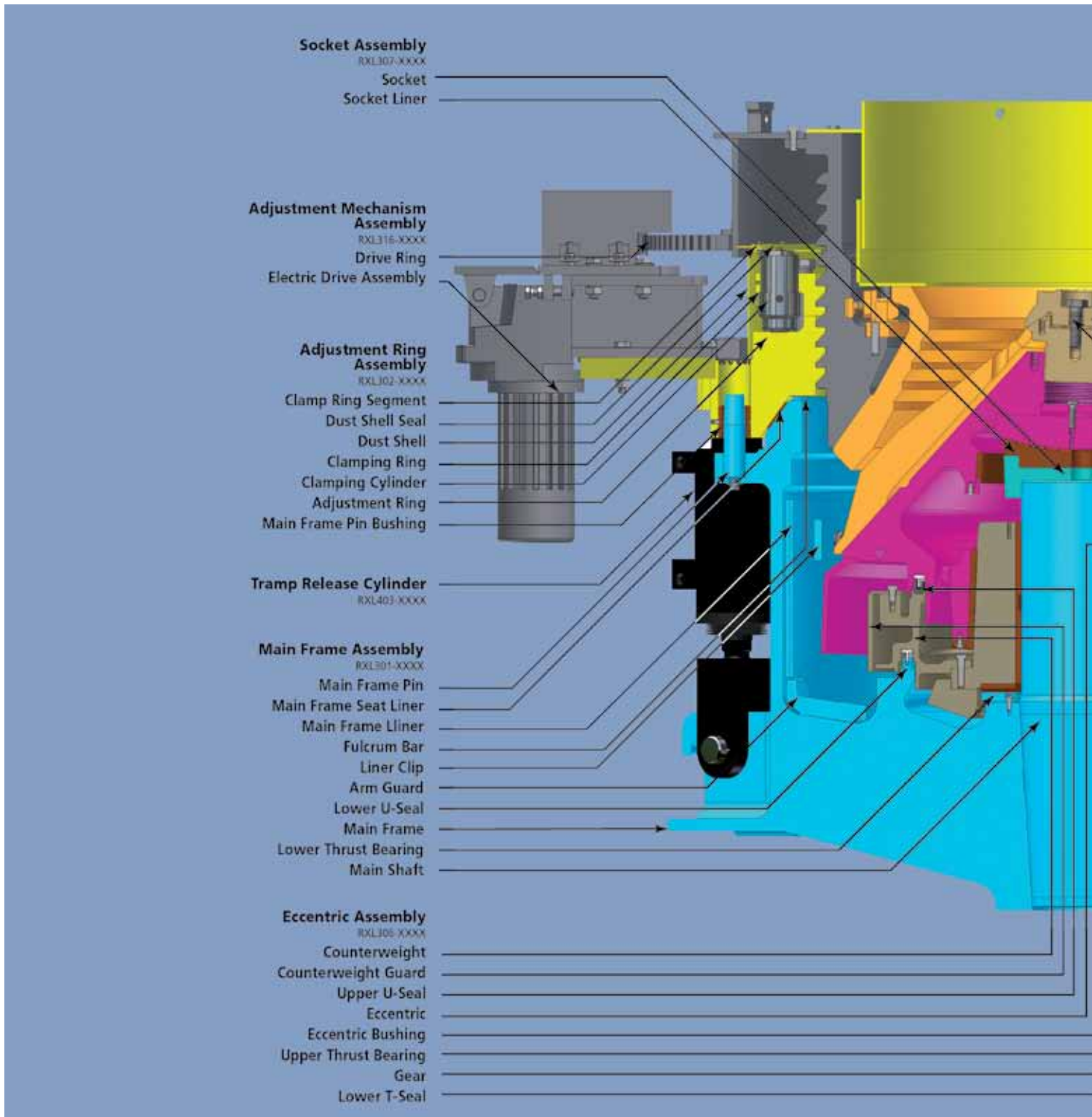
# XL300 Clearance Dimensions

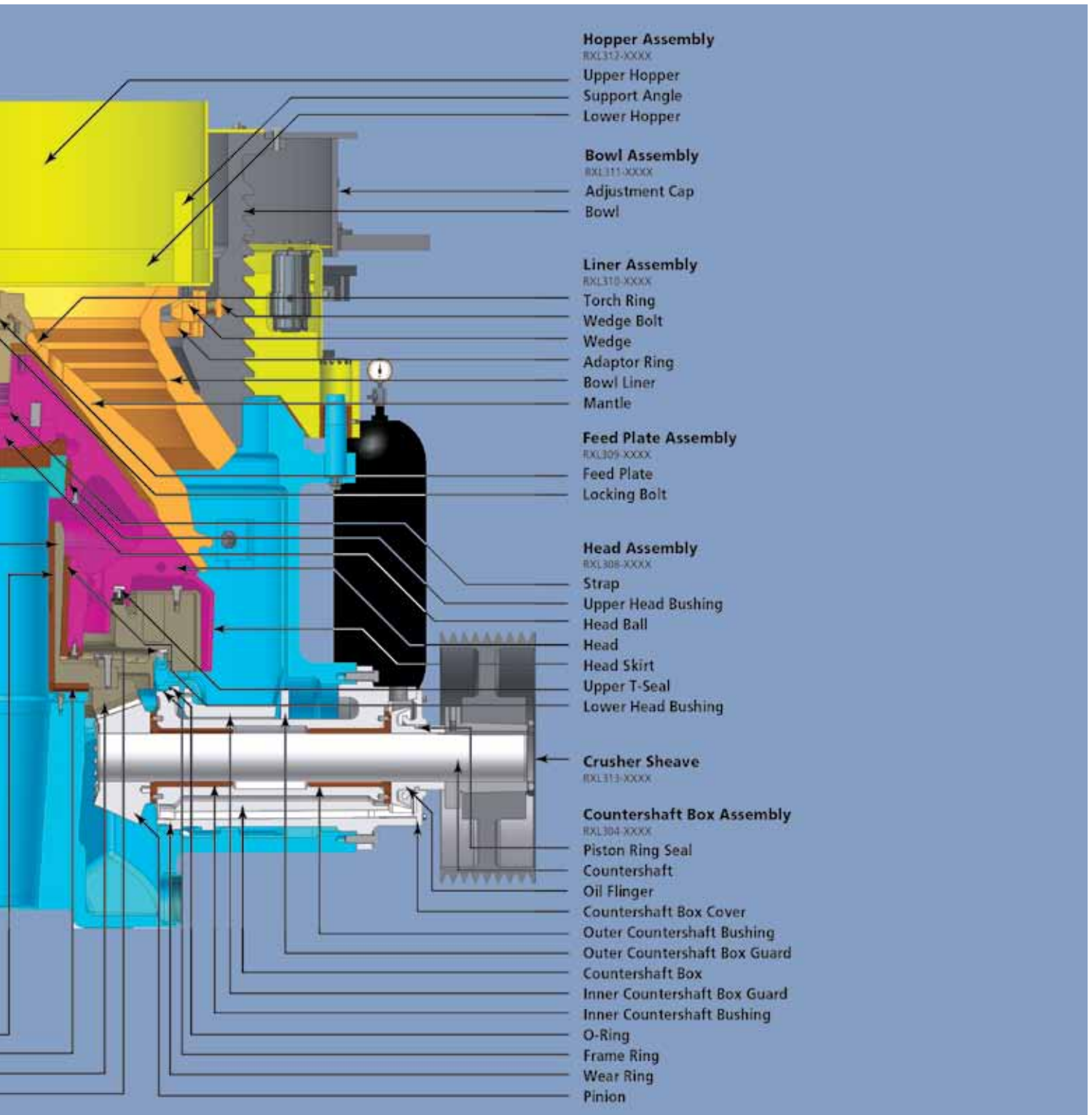


		(in)	(mm)
A	Adjustment Ring Max Diameter	101.02 in	2566 mm
B	Inside Diameter of Feed Hopper	42.56 in	1081 mm
C	Clearing Stroke Travel	4.37 in	111 mm
D	Height from Base to Top of Feed Hopper	71.91 in	1827 mm
E	Base to Bottom of Oil Piping	14.69 in	373 mm
F	Base to Bottom of Main Frame Hub	7.81 in	198 mm
G	Base to Top of Feed Plate	53.17 in	1351 mm
	Base to Top of Feed Plate (Anti-Spin)	60.47 in	1536 mm
H	Hub Diameter of Main Frame	16.81 in	427 mm
I	Crusher Centerline to Main Frame Flange	40.74 in	1035 mm
J	Clearance Required to Remove Countershaft Assembly	80.00 in	2032 mm
K	Crusher Centerline to End of Countershaft	53.0 in	1346 mm
L	Crusher Centerline to Countershaft Housing Face	36.2 in	920 mm
M	Clearance Required to Remove Head Assembly	114.00 in	2896 mm
	Clearance Required to Remove Head Assembly (Anti-Spin)	121.00 in	3073 mm
N	Clearance Required to Remove Bowl Assembly	110.00 in	2794 mm

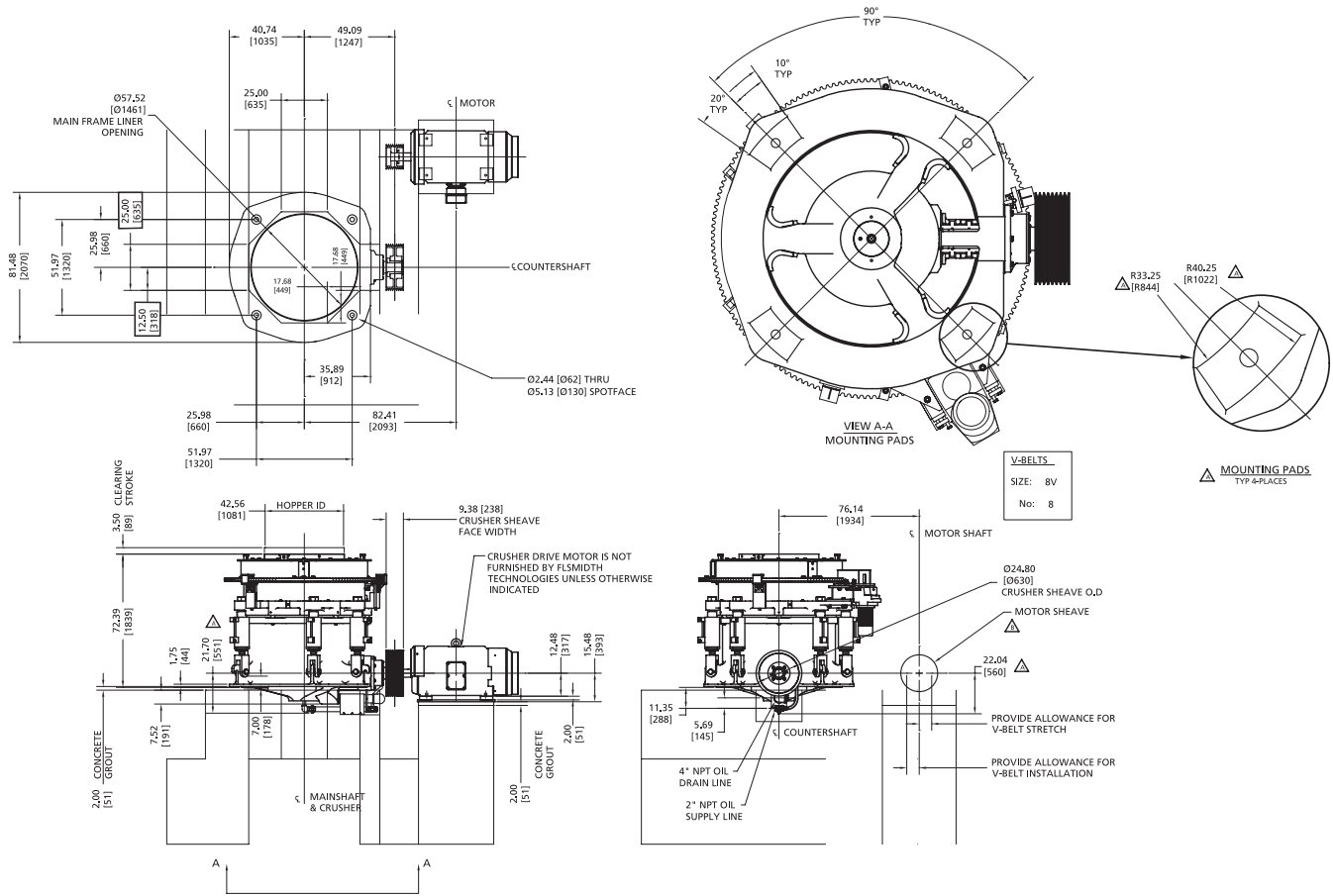
All dimensions are for reference only and are not to be used for construction.

# Raptor® XL300 Cross Section





# XL300 General Arrangement



All dimensions are for reference only and are not to be used for construction.

## Product Gradation Table

### Percent Passing For a Given Closed Side Setting

Average Feed Material (12 to 14 wi)

Product Size	1/4" (6 mm)	3/8" (10 mm)	1/2" (13 mm)	5/8" (16 mm)	3/4" (19 mm)	7/8" (22 mm)	1" (25 mm)	1 1/4" (31 mm)	1 1/2" (38 mm)	2" (50 mm)
4" (100 mm)										100
3" (75 mm)									100	94-98
2" (50 mm)								96-99	89-95	65-71
1-1/2" (38 mm)						100	95-99	87-93	73-79	47-53
1" (25 mm)				95-99	92-97	82-88	71-77	46-52	37-43	25-31
3/4" (19 mm)		100	93-98	86-92	79-85	65-71	54-60	34-40	27-33	19-25
1/2" (13 mm)	100	89-95	75-81	63-69	52-58	40-46	33-39	19-25	15-21	11-17
3/8" (10 mm)	85-91	78-84	63-69	52-58	42-48	31-37	27-33	15-21	12-18	9-14
1/4" (6 mm)	75-81	52-58	40-46	33-39	26-32	19-25	16-21	9-15	6-12	4-11

Values listed will vary depending on feed distribution, cavity level, feed gradation, crushing chamber, moisture, and material density.

# Raptor® XL300

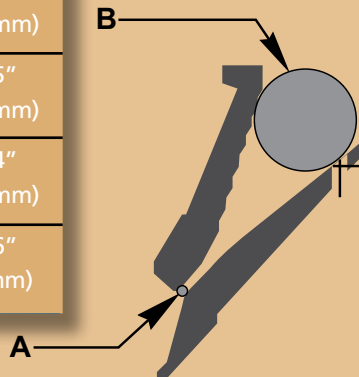
## Capacity Chart

	Setting mm	mt/hr Min	mt/hr Max	Settings Inches	stph Min	stph Max
Short Head Fine	10	130	175	3/8	140	190
Short Head Medium	13	140	210	1/2	155	230
Short Head Medium	16	180	265	5/8	200	290
Short Head Coarse	19	220	315	3/4	240	350
Standard Fine	22	230	345	7/8	255	380
Standard Fine	25	260	375	1	285	410
Standard Fine	32	275	400	1-1/4	300	440
Standard Medium	38	300	440	1-1/2	330	485
Standard Coarse	45	360	500	1-3/4	400	550
	Reduction Ratio	4 to 6	2 to 4	Reduction Ratio	4 to 6	2 to 4

As indicated above for 100 lbs. per cubic foot and impact work index of 13. Short tons per hour based on open circuit crushing with material weighing 100 pounds per cubic foot. Values are estimated "instantaneous" product samples, actual values may vary  $\pm 15\%$ . Factors that will vary throughput are: feed gradation, cavity level, feed distribution, moisture content, and properties of the processed material.

## Feed Openings

	Minimum Closed Side Setting "A"	Feed Size "B" at min. CSS "A"
Standard Coarse	.78" (20 mm)	9.44" (240 mm)
Standard Medium	.65" (17 mm)	7.50" (191 mm)
Standard Fine	.50" (13 mm)	5.83" (148 mm)
Short Head Coarse	.40" (10 mm)	4.75" (121 mm)
Short Head Medium	.25" (6 mm)	3.94" (100 mm)
Short Head Fine	.22" (6 mm)	2.86" (73 mm)



## Lifting Weights

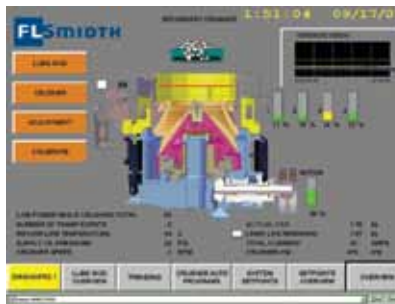
Main Lifting Items	(lbs.)	(kg)
Complete Crusher	35,340	16,030
Main Frame Assy (Includes Main Shaft and Frame Liner)	10,670	4,840
Bowl Assembly (Includes Bowl Liner and Hopper Assembly)	7,575	3,440
Adjustment Ring (Includes Clamping Ring)	5,100	2,310
Head Assembly (Feed Plate Assembly and Mantle)	4,650	2,110
Countershaft Box Assembly	900	410
Eccentric Assembly (Includes Counterweight)	2,400	1,090
Mantle	1,815	820
Bowl Liner	1,870	840
Power Unit		
Dry	740	340
Wet	1,110	500
Lube-Air		
Dry	1,515	690
Wet	2,140	970
Lube-Water		
Dry	1,630	740
Wet	2,260	1,025
Air Cooler	350	160

NOTE:

1. Allowable casting weights vary  $\pm 5\%$ .

## Capabilities

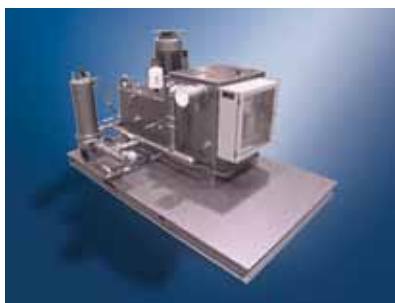
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### Automation

Raptor® automated controls improve cone crushing performance by ensuring the crusher operates at optimal efficiency:

- Available in five packages for all Raptor Cone Crusher models:
  - Basic Automation System
  - Automated Interlock System
  - Full Automation System
  - Custom Automation System
  - Remote Liner Calibration System
- Self-contained controllers provide full-time monitoring and automated controls



### Package Lube & HPU

The **Package Lube System** is designed and sized to provide the necessary supply of clean and cooled lubrication oil and is available in an air-cooled or water-cooled package, depending on requirement. Both systems are skid-mounted, designed to operate at a maximum pressure of 125 psi (8.6 Bars) and include:

- Full flow oil filter with integral pressure relief
- Replaceable filter element and



two pressure switches to indicate filter element conditions

- Reservoir with oil level sensor, temperature sensor and a thermowell mounted oil heater
- Submerged oil pump attached to a vertically positioned electric drive motor
- Main system relief valve
- Crusher relief valve

The **Hydraulic Power Unit** is designed and sized to provide the necessary oil flow and pressures to operate bowl clamping, bowl adjustment, crusher cavity clearing and the tramp release systems. The power unit can be controlled locally at the push button pendant or at the Automated Control System (ACS) touch screen.

The Hydraulic Power Unit includes:

- Cabinet with an integral oil tank and replaceable breather
- Vertically mounted electric motor
- Submerged hydraulic pump
- Solenoid valves
- Oil filter
- Remote-mounted pushbutton control panel

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