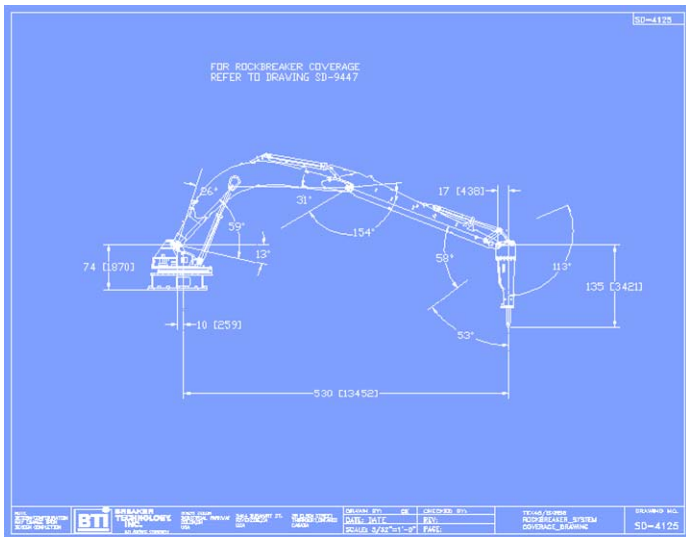




**BREAKER  
TECHNOLOGY,  
INC.**  
an Atlas Copco company



## At A Glance

### Operating Weights: lb. (kg.)

Model	Boom only	Complete System*
TTX30.....	41,357 (18756)	45,557 (20661) – 50,407 (22860)
TTX36.....	43,394 (19680)	47,594 (21585) – 51,194 (23217)
TTX40.....	44,952 (20386)	49,152 (22291) – 51,452 (23334)
TTX45.....	46,260 (20980)	50,460 (22884) – 52,760 (23927)

\* complete system from smallest to largest appropriate hammer, including electric-hydraulic power pack and IOAN (can-bus) controls

### Dimensions: in. (cm)

Model	Length x Width*	Working length**	Base (L x W)
TTX30.....	416 x 72 (1057 x 183)	368 (934)	96.8 x 72.0 (246 x 183)
TTX36.....	472 x 72 (1199 x 183)	427 (1085)	96.8 x 72.0 (246 x 183)
TTX40.....	528 x 72 (1341 x 183)	468 (1189)	96.8 x 72.0 (246 x 183)
TTX45.....	571 x 72 (1450 x 183)	530 (1346)	96.8 x 72.0 (246 x 183)

\* less hammer

\*\* swing pivot to dipper stick / hammer mounting pin (on-center) dimension

## Operating Parameters

Model	Hammer Model Range: ft-lb (J)
TTX30.....	BX50: 5,000 (6779) thru BXR120: 12,000 (16269)
TTX36.....	BX50: 5,000 (6779) thru BXR100: 10,000 (13557)
TTX40.....	BX50: 5,000 (6779) thru BXR85: 8,500 (11524)
TTX45.....	BX50: 5,000 (6779) thru BXR85: 8,500 (11524)

# TTX SERIES Rockbreaker System



## FEATURES & BENEFITS

High strength steel (bent, 4-plate) construction  
65 ksi tensile strength; 50 ksi yield strength for longer service life

Reinforced pivot and mounting pin joints from improved durability

Hardened steel bushings in pivot joints and larger diameter pivot pins provide reduced bearing pressure and increased service life

Thick pedestal base plate – 2.0" (50 mm) for stable mounting – optional concrete installation available

Sealed turn-table bearing and gear drive for longer service life

Increased cross sectional strength of boom and dipper where high stress is realized

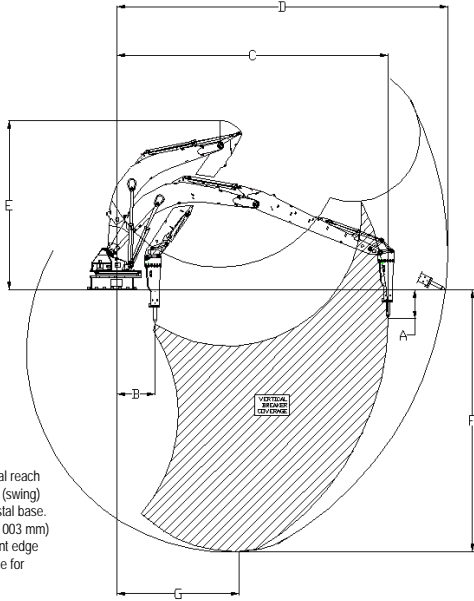
Can-bus (IOAN) control technology for more precise control and ramping for improved operation response

Legend: ● Standard ▲ Optional

# TTX Series Pedestal Rock Breaker System

## BOOM & HAMMER COMBINATIONS

### Hammer Specifications



**Note:** Horizontal reach originates from (swing) center of pedestal base. Deduct 39.5" (1003 mm) minimum to front edge of pedestal base for clearance.

Hammer Models:	BX50	BX65	BX85	BXR100	BXR120
<b>Impact Energy Class:</b> ft-lb (J)	5,000 (6779)	6,500 (8812)	8,500 (11524)	10,000 (13557)	12,000 (16269)
<b>Operating Weight:</b> lb. (kg.)	4,200 (1905)	4,860 (22204)	6,500 (2948)	7,800 (3538)	9,050 (4105)
<b>Working Length</b> in. (mm)	107 (2704)	114 (2903)	133 (3368)	137 (3481)	143 (3616)
<b>Tool Diameter</b> in. (mm)	5.5 (140)	5.9 (150)	6.3 (160)	6.7 (170)	7.1 (180)
<b>Operating Flow</b> gpm (lpm)	38-54 (144-204)	42-60 (159-227)	52-75 (197-284)	63-90 (239-341)	74-105 (280-298)
<b>Operating Pressure</b> psi (bar)	2180-2760 (150-190)	2180-2760 (150-190)	2180-2760 (150-190)	2180-2760 (150-190)	2180-2760 (150-190)
<b>Impact Frequency</b> bpm (short stroke)	374-611 (514-840)	341-561 (545-746)	328-544 (436-723)	327-537 (425-708)	294-480 (368-600)
<b>Sound / Distance*</b> at 85 dB(A): ft. (m)	142 (43)	146 (44)	150 (45)	152 (46)	155 (47)

(\*): BXR hammers are furnished with a sound suppressing housing for superior noise attenuation. Noise levels may vary due to site conditions..

### Coverage

	TTX30					TTX36					TTX40			TTX45		
ft. (m)	BX50	BX65	BX85	BXR100	BXR120	BXR50	BX65	BX85	BX100	BXR50	BXR65	BX85	BX50	BX65	BXR85	
<b>A</b>	3'-3" (1.0)	3'-10" (1.2)	5'-5" (1.7)	5'-9" (1.8)	6'-3" (1.9)	3'-8" (1.0)	4'-0" (1.0)	5'-7" (1.7)	6'-5" (2.0)	5'-6" (1.7)	6'-1" (1.9)	7'-8" (2.3)	2'-7" (0.8)	3'-2" (0.9)	4'-9" (1.4)	
<b>B</b>	7'-0" (2.1)	7'-0" (2.1)	7'-0" (2.1)	7'-0" (2.1)	7'-0" (2.1)	6'-6" (2.0)	6'-6" (2.0)	6'-6" (2.0)	6'-6" (2.0)	9'-1" (2.8)	9'-1" (2.8)	9'-1" (2.8)	9'-3" (2.8)	9'-3" (2.8)	9'-3" (2.8)	
<b>C</b>	30'-8" (9.3)	30'-8" (9.3)	30'-8" (9.3)	30'-8" (9.3)	30'-8" (9.3)	35'-7" (10.8)	35'-7" (10.8)	35'-7" (10.8)	35'-7" (10.8)	39'-0" (11.9)	39'-0" (11.9)	39'-0" (11.9)	44'-1" (13.4)	44'-1" (13.4)	44'-1" (13.4)	
<b>D</b>	39'-8" (12.1)	40'-1" (12.2)	41'-1" (12.5)	41'-4" (12.6)	41'-8" (12.7)	43'-11" (13.4)	44'-4" (13.5)	45'-5" (13.8)	45'-11" (14.0)	47'-7" (14.5)	48'-0" (14.6)	49'-1" (15.0)	52'-4" (15.9)	52'-8" (16.0)	53'-9" (16.4)	
<b>E</b>	25'-6" (7.8)	25'-6" (7.8)	25'-6" (7.8)	25'-6" (7.8)	25'-6" (7.8)	25'-9" (7.8)	25'-9" (7.8)	25'-9" (7.8)	25'-9" (7.8)	27'-5" (8.4)	27'-5" (8.4)	27'-5" (8.4)	27'-5" (8.4)	27'-5" (8.4)	27'-5" (8.4)	
<b>F</b>	25'-4" (7.7)	25'-9" (7.8)	26'-9" (8.1)	27'-0" (8.2)	27'-4" (8.3)	31'-11" (9.7)	32'-6" (9.9)	34'-1" (10.4)	34'-11" (10.6)	35'-10" (10.9)	36'-5" (11.1)	38'-1" (11.6)	39'-10" (12.1)	40'-5" (12.3)	42'-0" (12.8)	
<b>G</b>	15'-4" (4.7)	15'-4" (4.7)	15'-4" (4.7)	15'-4" (4.7)	15'-4" (4.7)	16'-4" (5.0)	16'-4" (5.0)	16'-4" (5.0)	16'-4" (5.0)	17'-10" (5.4)	17'-10" (5.4)	17'-10" (5.4)	18'-0" (5.5)	18'-0" (5.5)	18'-0" (5.5)	

### Tool Selection (for aggregate production and mining)



- **Blunt** is used for boulder and oversize breaking; tool impact delivers the stress wave generated by the hammer causing the material to fracture; excellent wear resistance



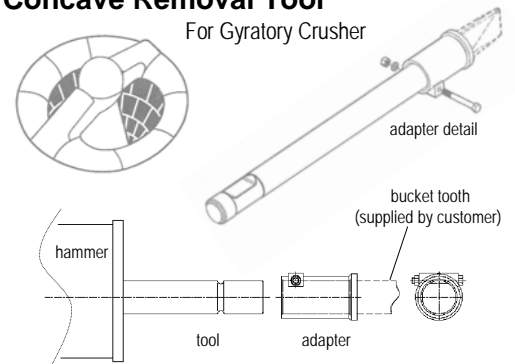
- **Chisel** is suitable for slabby, angular material; tool provides wedge effect impact and good penetration



- **Moil** is ideal for softer, abrasive material where high penetration is needed; similar to the blunt it results in less torque in the front head

### Concave Removal Tool

For Gyrotary Crusher



Note: Adapter tool length is 72 in. (1829 mm) long plus adapter and tool

# TTX Series Pedestal Rock Breaker System

## HAMMER SELECTION GUIDE FOR BLASTED MATERIAL\*

### IMPERIAL MEASUREMENTS

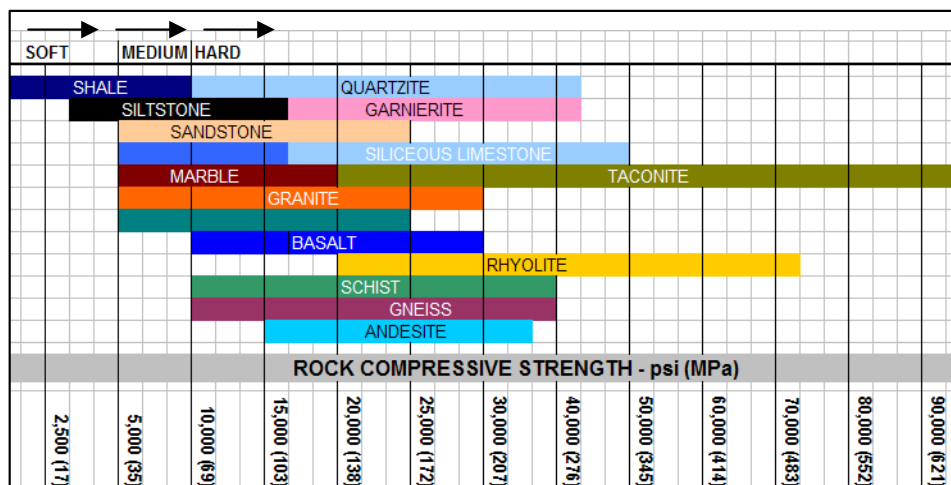
Material Hardness Compressive Strength	BOULDER SIZE - yd <sup>3</sup>						
	< 0.5 yd <sup>3</sup>	0.5 – 1.0 yd <sup>3</sup>	1.0 – 2.0 yd <sup>3</sup>	2.0 – 4.0 yd <sup>3</sup>	4.0 – 6.0 yd <sup>3</sup>	6.0 – 8.0 yd <sup>3</sup>	8.0 – 10 yd <sup>3</sup>
<b>Very Hard</b> ..... 35-45 ksi examples: gneiss, schist, andesite, gold ore	2,000 ft-lb	3,000 ft-lb	4,000 ft-lb	5,000 ft-lb	6,500 ft-lb	8,500 ft-lb	10,000 ft-lb
<b>Hard</b> ..... 25-35 ksi examples: siliceous limestone, basalt, granite, trap rock, copper ore	1,500 ft-lb	2,000 ft-lb	3,000 ft-lb	4,000 ft-lb	5,000 ft-lb	6,500 ft-lb	8,500 ft-lb
<b>Medium Hard</b> ... 15-25 ksi examples: dolomite, siliceous and dolomitic limestone	1,000 ft-lb	1,500 ft-lb	2,000 ft-lb	3,000 ft-lb	4,000 ft-lb	5,000 ft-lb	6,500 ft-lb
<b>Soft</b> ..... 10-15 ksi examples: soft limestone, gypsum	800 ft-lb	1,000 ft-lb	1,500 ft-lb	2,000 ft-lb			

(\*): 1 ksi = 1,000 psi (lbs. / in.<sup>2</sup>), ranges provided due to possible layer presence and density variance.

### METRIC MEASUREMENTS

Material Hardness Compressive Strength	BOULDER SIZE - m <sup>3</sup>						
	< 0.5 m <sup>3</sup>	0.5 – 1.0 m <sup>3</sup>	1.0 – 2.0 m <sup>3</sup>	2.0 – 4.0 m <sup>3</sup>	4.0 – 6.0 m <sup>3</sup>	6.0 – 8.0 m <sup>3</sup>	8.0 – 10.0 m <sup>3</sup>
<b>Very Hard</b> ..... 241-310 MPa examples: gneiss, schist, andesite, gold ore	3,000 ft-lb	4,000 ft-lb	5,000 ft-lb	6,500 ft-lb	8,500 ft-lb	10,000 ft-lb	12,000 ft-lb
<b>Hard</b> ..... 172-241 MPa examples: siliceous limestone, basalt, granite, trap rock, copper ore	2,000 ft-lb	3,000 ft-lb	4,000 ft-lb	5,000 ft-lb	6,500 ft-lb	8,500 ft-lb	10,000 ft-lb
<b>Medium Hard</b> .. 103-172 MPa examples: dolomite, siliceous and dolomitic limestone	1,500 ft-lb	2,000 ft-lb	3,000 ft-lb	4,000 ft-lb	5,000 ft-lb	6,500 ft-lb	8,500 ft-lb
<b>Soft</b> ..... 69-103 MPa examples: soft limestone, gypsum	1,000 ft-lb	1,500 ft-lb	2,000 ft-lb	3,000 ft-lb			

(\*): 1 MPa = 145 psi (lbs. / in.<sup>2</sup>), ranges provided due to possible layer presence and variance.



# TTX Series Pedestal Rock Breaker System

## DESIGN and ENGINEERING DATA

### Design Data: in (mm)

- Mounting bolt size: 1.5 in. dia. ( $\phi$  38) x20 thru holes @ 1.75 in. dia. ( $\phi$  44)
- Mounting bolt torque: 900 ft-lb (1220 N-m)
- Swing Angle: 330° (-165° / +165°) ●
- Dual Gear Drives: 125K ft.-lb. (kN-m) continuous torque (x2 intermittent) c/w 81CC Swing Motors – 2000 psi (138 bar) Internal Relief; 130 (9) / 160 (11) / 3000 (207): initial / full / maximum psi (bar) & 1,000 in.-lb. (113 N-m) breakaway torque;

### Pivot Pin Data: in. ( $\phi$ mm)

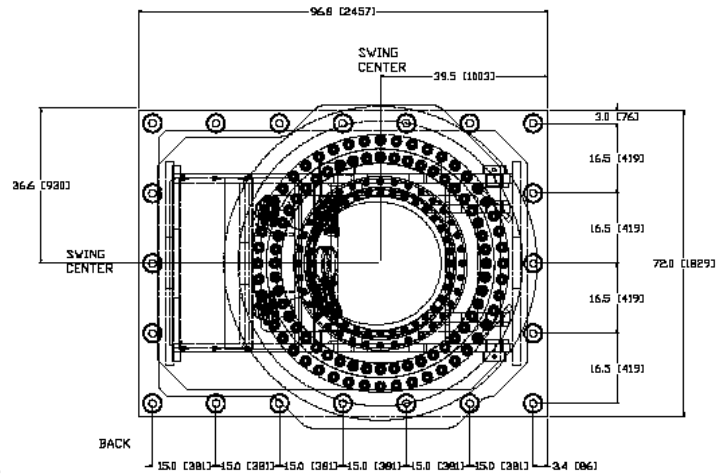
- 7.0 ( $\phi$  178) Pedestal Base-to-Hoist Boom;
- 6.0 ( $\phi$  152) Hoist Boom-to-Dipperstick (Jib)
- 3.0 ( $\phi$  76): Hammer Mounting

### Cylinder data: Bore $\phi$ / Rod $\phi$ / Stroke

- Hoist (lift) (x2): 7.0 / 5.0 / 62.13 (178 / 127 / 1578)
- Stick (crowd): 9.0 / 5.0 / 78.50 (229 / 127 / 1994)
- Tilt (curl): 7.0 / 5.0 / 49.63 (178 / 127 / 1260)

### Cylinder mounting pins

- 3.5 (89)
- 3.5 (89)
- 3.5 (89)



Pedestal Base Dimension: TTX30 – TTX36 – TTX40 – TTX45

## Engineering Data: Loads and Moments

### Imperial

#### Static Overturning

##### Moments: ft-lb (+/-)

- MH\*: 773,770 / 0
- MV: 98,000 / 98,000
- MS\*: 773,770 / 773,770

##### Loads: lbs. (+/-)

- FS\*: 25,000 / 25,000
- FV: 0 / 56,000
- FH\*: 22,000 / 22,000

#### Dynamic Overturning

##### Moments: ft-lb (+/-)

- MH: 1,547,540 / 0
- MV: 196,000 / 196,
- MS: 1,547,540 / 1,54

Swing Torque: 98,000 ft-lb

### Metric

#### Static Overturning

##### Moments: kN-M (+/-)

- MH\*: 1050K / 0
- MV: 133K / 133K
- MS\*: 1050K / 1050K

##### Loads: kN (+/-)

- FS\*: 111K / 111K
- FV: 0 / 250K
- FH\*: 111K / 111K

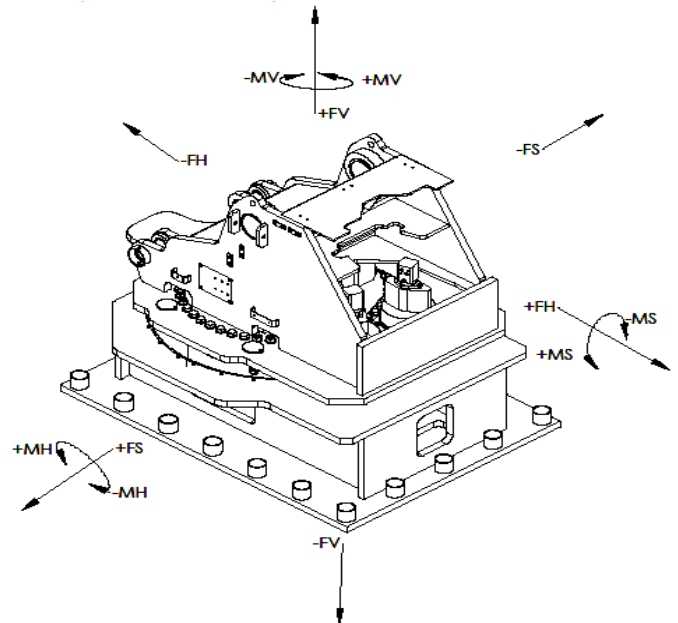
#### Dynamic Overturning

##### Moments: kN-M (+/-)

- MH: 2100K / 0
- MV: 266K / 266K
- MS: 2100K / 2100K

Swing Torque: 133K kN-M

(\*): FS or FH and MH or MS are swing function results and do not happen simultaneously



TTX30 – TTX36 – TTX40 – TTX45

### Cross Sectional Data\*\*: Section Height x Width - in (mm)

	<u>Hoist / Inner Boom</u>	<u>Dipperstick / Outer (Jib) Boom</u>
TTX30.....	33.6 x 28.4 (853 x 704)	25.1 x 20.3 (637 x 516)
TTX36.....	34.7 x 28.4 (881 x 721)	26.7 x 20.3 (678 x 516)
TTX40.....	35.9 x 28.4 (912 x 721)	26.7 x 20.3 (678 x 515)
TTX45.....	36.6 x 28.4 (930 x 721)	26.3 x 20.3 (668 x 516)

(\*\*): This is the average taken since each section is graduated

### Lifting Capacities: lb. (kg.)

- TTX30..... 11,932 (5411)
- TTX36..... 11,498 (5215)
- TTX40..... 8,922 (4046)
- TTX45..... 7,759 (3519)

Calculated at full extension, value increases closer to the swing center



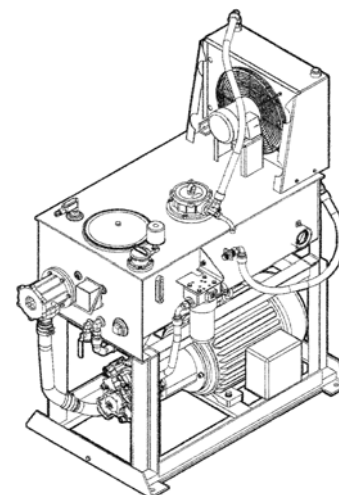
# TTX Series Pedestal Rock Breaker System

## HYDRAULIC and ELECTRICAL SYSTEMS

### Power Pack Specifications

Power Pack (PP) Model (Reservoir size - HP)	PP200-125	PP200-125	PP200-150	PP200-150	PP200-150
Matched w/ Hammer Model	BXR50	BXR65	BXR85	BXR100	BXR120
Horsepower (kW)	100 (75)	125 (93)	150 (112)	150 (112)	150 (112)
Operating Weight: (w/o oil) lb. (kg.)	4000 (1814)	4410 (2000)	4600 (2086)	4600 (2086)	4600 (2086)
Dimensions: L x W x H in. (mm)	87 x 65 x 98 (2210 x 1651x 2489)	87 x 65 x 98 (2210 x 1651x 2489)	87 x 65 x 98 (2210 x 1651x 2489)	87 x 65 x 98 (2210 x 1651x 2489)	87 x 65 x 98 (2210 x 1651x 2489)
Pump Flow gpm (lpm)	54 (204)	60 (227)	75 (284)	90 (341)	105 (398)
Pump Pressure psi (bar)	3600 (250)	4200 (290)	4200 (290)	4200 (290)	4200 (290)
Air-to-Oil Cooler c/w 1/2 HP motor (56T frame) ● c/w 3/4 HP motor (56T frame) ▲	Standard	Standard	Standard	Standard	Standard

Note: 3/4 HP oil cooler fan motor > 8,200 ft. (2500 m) a.s.l.



Filtration	Micron	Filtration Area sq. in. (sq. mm)	Flow Capacity gpm (lpm)	By-Pass psi (bar)	Maximum Pressure Rating psi (bar)
Pressure Filter	10	415 (2677)	147 (556)	75 (5)	5075 (350)
Return Filter	10	1100 (7100)	130 (490)	22 (1.5)	n/a
Suction Strainer	10	415 (2677)	60 (225)	75 (5)	6,000 (410)

Note: Power Pack Assembly also includes Pressurized reservoir capacity is 200 gal. (757 liters); Vent pressure relief is 4 psi (2.8 bar); Visual indicators provided on both pressure and return filters; low-oil level cut-off switch; pressurized filler cap, tank clean-out access cover; oil level gauge; temperature gauge; pump load sense bulkhead & connector, drain port & valve

Electric Motor (Pump Drive)	100 HP	125 HP	150 HP
TEFC (IP55) Frame Size High Efficiency ● Prem. Efficiency ▲	404/5T	404/5T 444/5T	445TC
RPM / Service Factor	1800 / 1.25	1800 / 1.15	1800 / 1.15
Efficiency & Power Factor @ 100%	95.4 / 87.0	95.8 / 88.0	96.2 / 89.0
AC Voltage / Phase / Hertz (other combinations available to suit site)	380 / 3 / 50 460 / 3 / 60 575 / 3 / 60	380 / 3 / 50 460 / 3 / 60 575 / 3 / 60	380 / 3 / 50 460 / 3 / 60 575 / 3 / 60
Current: Full Load / Rotor (amps) Locked	112 / 725	139 / 907	165 / 1,085
Torque: Full Load Torque (N-m)	295 (400)	368 (499)	441 (598)

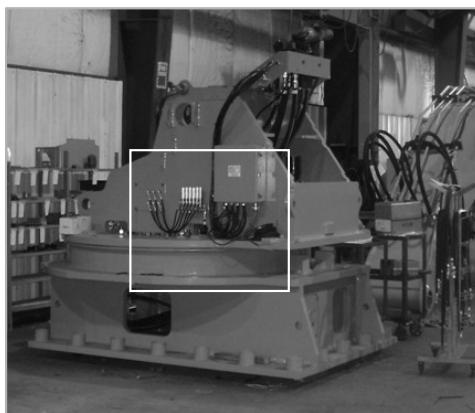
Note: NEMA Design B; Class "F" insulation; Altitude 3,300 ft. (1000 m) a.s.l.; Ball bearings; Continuous duty; Energy savings > EFF1 minimum efficiency (CC029A certification); Premium eff. meets IEEE841 standard; Constant HP control provides faster simultaneous boom functions w/o the need for a larger drive motor

### Power Pack (HPU) Options

Oil Tank Immersion Heater c/w thermostat; High/Low Temperature Sensor; Motor Starter Panel; Recirculation Valve; High Altitude Provision; Motor Deration Package in 3,281 ft. (1000 meters); Drip tray; Hand pump; Motor Terminal Blocks; Water-over-Air Cooler pkg.; Cold Weather Conversion Kit

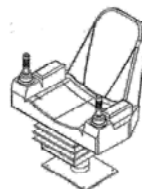
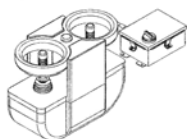
### IQAN (can-bus) Remote Controls

- Sturdy Framed Stand Mounted Joystick controller – 48 in. (1219 mm) height
- 2-Dual Axis Joysticks – R.H. Thumb Hammer Op.
- SAE Mapping / Excavator Control Pattern
- Remote start/ stop of power unit (pump motor)
- NEMA 12 (CSA Type 12) Enclosures
- 120/240 VAC Power supply
- 24 VDC , 156W, 6.5 A Control power
- Inputs:
  - 8 V voltage inputs
  - 0-5 VDC signal range
  - 1.2 mV resolution
  - 5(1) digital inputs
  - >4 VDC / <= 1 VDC (high/low signal)
  - 400 mA; 32 VAC resistive load switching current
- Outputs:
  - 1 digital output
  - 200 mA max. load.
- Resistance temperature detector (RTD) mounted to HPU
  - measures oil temperature within HPU
  - controls cooler fan motor and immersion heater
  - Provides high/low temperature shutdown



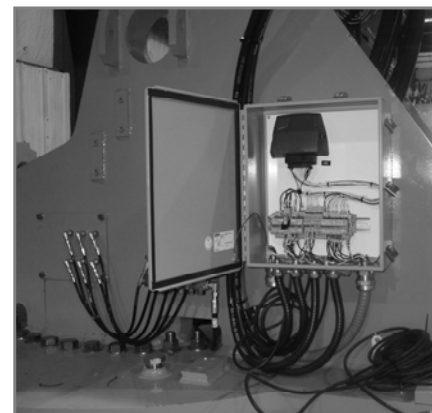
#### Distance ft. (m)

- Parker IQAN (can-bus) - 328 (30) max. ●
- Radio Remote additional option - 328 (30) max. ▲



#### Deluxe controls options: ▲

- Coaxial Cable (Pan-Zoom Camera) option – 1,500 (457)
- Fiber Optics (Pan-Zoom Camera) option – 7 miles (11.2K m)



# TTX Series Pedestal Rock Breaker System

## ROCKBREAKER SYSTEM STANDARD FEATURES

Notes:

● Standard    ▲ Optional

### Power Packs

- • 100 HP motor for BXR50; 125 HP motor for BXR65; 150 HP motor for BXR85, BXR100 and BXR120 for 24/7/365 annual duty requirement
- • Constant HP control provides faster simultaneous boom functions without the need for a larger drive motor
- • High efficient grade main pump drive motor
- ▲ • Premium efficient (IEEE841) / Energy efficient main pump drive motor
- • Main electric motor altitude acceptance limit: 3,280 ft. (1000 m)
- ▲ • High Altitude: motor impeller charge kit > 5,000 ft (1,500 m); and
- ▲ • High Altitude: motor altitude deration, provided in 1000 m increments > 3,280 ft. (1000 m) up 16,400 ft. (5000 m)
- ▲ • Continuous oil circulation valve for high duty & temperature applications
- ▲ • High/low temperature sensor
- ▲ • Immersion heater – 2kW (circuit breaker & contactor optional with starter panel)
- ▲ • Motor Starter panel (100, 125 or 150 HP mounting & wiring also optional)
- / ▲ • Remote power pack start / stop panel with indicator switches and lamps
- • Air-to-oil cooler with thermostatic control
- ▲ • Water-over-oil cooler c/w thermostatic control
- / ▲ • Cold weather conversion kit (with dual immersion heaters, heat tape, etc.)
- ▲ • 15 ft. (4.6 m) Supply hoses –optional longer lengths up to 25 ft. (7.6 m)

### Control System:

- • IQAN (can-bus) stand mounted joystick controller package w/ PP on/off provision
- • < 328 ft. (100 m) remote control cable (IQAN)
- • RTD measures oil temp., controls cooler, heater and temperature shutdown
- ▲ • IQAN override handles for mechanical positioning (installation & maintenance)
- ▲ • Hand-held Radio Remote (transmitter-receiver) joystick controller package
- ▲ • < 328 ft. (100 m) control distance / signal strength (radio remote)
- ▲ • Secondary stand mounted controls
- ▲ • < 1,500 ft. (457 m) coaxial cable – central control c/w pan-zoom cameras
- ▲ • < 7 mi. (11.26 km) fiber optic cable – central control cw pan-zoom cameras

### Greasing System: (2-grease system: moly / lithium for boom, chisel past for hammer)

- • Individual / point-to-point manual greasing of boom and hammer
- ▲ • Manual-Centralized Grease system; Hydraulic auto lubrication system
- ▲ • Pneumatic auto lubrication system

### Pedestal Boom and Hammer Units

- ▲ • Counter-balance valve package
- ▲ • Anti-Lunge provision
- ▲ • Anti-Blank fire provision
- ▲ • Fire suppression system (Ansul: manual, "Automan" or "Check-fire")
- • Hammer blunt tool – (optional choice of chisel ormoil)
- ▲ • Hammer severe duty wear kit with rock claws (separate claws also optional)

# TTX Series Pedestal Rock Breaker System

## OPTIONS ▲

### BOOM

- All hose system
- Counter balance valves
- Anti-lunge protection
- Anti-blank fire interlock
- Foundation interface mounting  
- concrete or steel structure
- Greasing systems  
- manual, hydraulic or pneumatic
- Fire Suppression (Ansul)
- Explosion proof valve/circuit
- Auxiliary hydraulic circuit
- Steel isolator mounting
- Customized base mounting\*
- Swing stops & alt. positioning
- Expander pin provision
- Spring guard hose covering
- Start-up / commissioning svc.
- Installation supervision



(\*) Expander pin provision

### POWER PACK

- Premium efficient motor
- Immersion heater
- Continuous circulation valve
- Cold weather conversion kits
- Motor Starter Panel  
- additional mounting & wiring
- Cooler Package (for BX20)  
- air-to-oil or water-to-oil
- Motor deration package
- High altitude provision
- Motor terminal blocks
- Explosion proof motor
- Hand pump / Drip tray
- Drip tray
- Dust enclosure w/ ventilation\*



(\*) Dust enclosure w/ ventilation

### CONTROLS

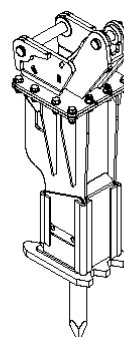
- IQAN override handles
- Secondary stand mtg. controls
- Radio remote controls
- Ergonomic chair c/w controls\*
- Coaxial cable system\*  
- central pan-zoom camera control
- Fiber optics system\*  
- central pan-zoom camera control



(\*) Ergonomic seat / coax / fiber optics systems

### HAMMER

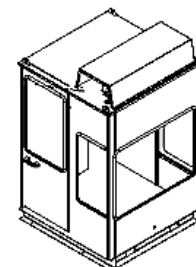
- Severe duty wear kit\*
- Rock claws kit
- Mechanic quick coupler
- Concave removal tool
- Spare Tools  
- blunt, chisel, moll
- Chisel paste  
- single tube or case or 5 gal. pail
- Extension mounting bracket



(\*) Severe Duty Wear Kit c/w Rock Claws

### MISCELLANEOUS

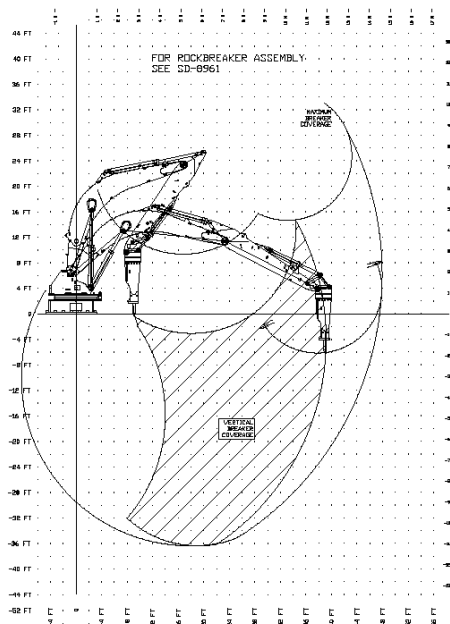
- 30 in (762 mm) bucket
- Quick Coupler-bucket
- Hydraulic positioner & circuit
- Control cabin (medium or large)\*
- Control cabin options  
- a/c; heater; extra door/window; etc.
- Miscellaneous attachments:  
- picks, grapples, stone grabs, etc.



(\*) Control Cab c/w A/C

A BTI representative is available to review your rock breaker project requirements and provide a site visit and assessment of your material flow conditions.

Dealer Stamp



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## Rockbreaker Boom Systems Warranty Policy

REV 09/04

# WARRANTY POLICY

1. BREAKER TECHNOLOGY INC. Company (hereinafter referred to as "BTI") warrants this product against defects in materials and workmanship for a period of twelve (12) months or 2000 hours from the date of installation, or 18 months from the date of shipment, whichever comes first. This warranty does not cover o-rings, seals, fittings, hoses, breaker tools or other items considered normal wear items. These are covered by the Limited Warranty period of thirty (30) days. Warranty for propriety items such as valves, pumps, filters, electric motors, panels and componentry that are not manufactured by BTI, will be governed by the warranty terms of their manufacturer. This warranty is void if BTI's standard installation specifications and procedures are not adhered to.
2. BTI will authorize return of any defective components or sufficient evidence of such defect to a BTI warehouse. Such components or such evidence must clearly show that the defect was caused by faulty material or poor workmanship. Warranty claim will be accepted only if it is submitted on a proper claims form with proof of purchase and received within sixty (60) days from the date of discovery of the defect. Warranty claims will be considered only if the "Installation Notice" has been duly filled in and returned to BTI within thirty (30) days from the date of installation.
3. BTI will at it's option, repair or refurbish the defective part(s) without charge to the initial user or may elect to issue full or partial credit toward the purchase of a new part(s). The extent of credit issued, which will be in the form of a "Credit Memo", will be determined by pro-rating against the normal life of the part(s) in question.
4. BTI is not responsible for mileage, travel time, travel expenses, overtime labor, and any freight expenses required to facilitate the repair.
5. This warranty does not apply if the product has been damaged by accident, abuse, misuse, misapplication or neglect, or as a result of service, disassembly or modification, without BTI's express authorization.
6. BTI assumes no liability beyond the replacement of defective parts or materials and/or the correction of such defective parts or materials.
7. BTI neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of its products other than that specifically stated herein.
8. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES. EXCEPT AS EXPRESSLY SET FORTH HEREIN, BTI MAKES NO REPRESENTATION OR WARRANTY, STATUTORY, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCTS MANUFACTURED AND/OR SUPPLIED BY BTI, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER. IN NO EVENT, INCLUDING IN THE CASE OF A CLAIM OF NEGLIGENCE, SHALL BTI BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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