



# RATCHET WRENCHES

# INTRODUCTION

## We Satisfy Market Needs

KUANI is dedicated in developing products that can be used with minimal effort, have the highest standard of user comfort and safety, and will be manufactured in the most eco-friendly way as possible.

RATCHET

### Intended Use

- Application context
- Performance requirement

### User Comfort

- Working posture
- Safety regulation

### Need Customization?

- Choose a product model from our category
- Tell us your specifications
- Or, simply send us a sample and your specifications



### DESIGN

- User's health & safety is our priority
- Market-oriented
- Professional engineering
- Prototype and mold
- Ability of developing test instruments and equipment

1

### PRODUCTION

- High ratio of self-manufactured content
- Integrated production lines
- 200 CNC machines
- Mass production ability

2

### QUALITY ASSURANCE

- Compliance with the regulation of safety requirement
- Total quality management
- KENTE Laboratory for testing vibration and noise

3

### About KUANI

KUANI has been the market leader in design, manufacture and distribution for all quality air tools produced in Taiwan for 30 years. KUANI's strong manufacturing capability is supported by around 300 experienced personnel operating over 200 CNC machines with the ability to make over 85% of all parts used in all KUANI products within KUANI's portfolio.



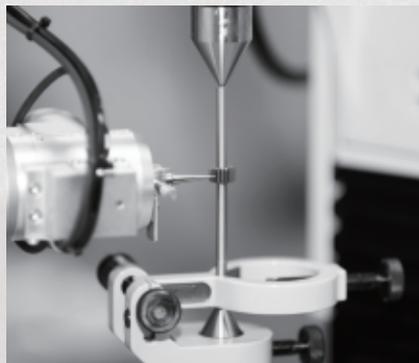
KUANI understands the value of quality and complies with ISO 9001:2008 and has been certificated within the fields of Manufacturing, R&D and Sales of Hand Tools. KUANI promises that each product has been strictly manufactured and checked based on the original design and pre-set frequency of use. When designing air tools, KUANI maintains user safety and comfort without compromising the tool's function. KUANI can offer clients an integrated service from design to mass production.



#### KUANI's Services:

- Precision Parts Machining Division
- Air Tools Manufacturing (OEM and ODM)
- Sound & Vibration Laboratory

In 2010, KUANI established the **KENTE** vibration and noise of power tool testing laboratory which is the first licensed vibration and noise of power tool testing laboratory in Taiwan. The KENTE laboratory complies with ISO/IEC 17025 and has been certificated by TAF and ILAC-MRA. It also offers a professional testing and consultancy service within the CE regulation of portable air tools.



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# KUANI Ratchet Wrenches

With almost 30 years experiences in design, development and manufacturing pneumatic tools, KUANI air ratchet wrenches provide an unprecedented performance the user needs for both industrial and professional applications.

Our goal is to continue the development of ratchet wrenches for optimized user comfort and productivity by upgrading the ergonomic design, tool performance and durability. When designing an air ratchet wrench, the operator's health and safety are always our first priority.



**Ratchet Wrenches**

# RATCHET

RATCHET

## Ratchet Wrench Features to Be Considered:

### A. Ratchet Head Types



#### ★ KUANI Head-Sealed Innovative Design (Full-Caged Housing):

- The ratchet protective cover prevents dirt and debris from entering the inner ratchet mechanism.
- The full caged metal housing prevents the ratchet head from distorting that may result in tool failure.



#### Conventional Ratchet Head Design:

- The classic and economic type of ratchet head design that is still popular in the automotive market.

### B. Ratchet Mechanisms



#### Single Pawl Ratchet:

- This mechanism is suitable for low to intermediate frequency of use.



#### Dual Pawl Ratchet:

- Twice as durable compared with the single pawl design.
- Prolonged tool working life with increased performance and torque output.

### C. Driving Mechanisms



#### Reduction Gear Set:

The most commonly used driving mechanism



#### ★ Impact Clutch:

KUANI patented Unicorn™ Hammer Clutch gives 20% increased torque output with 3 times faster rundown speed and reduced kick back to prevent wrist injury.

### D. Air Exhaust



#### Front Exhaust:

Exhausted air is blown forward away from the operator.



#### 360° Adjustable Side Exhaust:

This design improves the operator controllability of the exhaust direction.



#### Rear Exhaust:

This is the most popular design. The air is discharged down the handle and directed away from the working area.

### E. Socket Retainer Types



#### Friction Ring Retainer:

Allows for a quick change of socket during use and provides a firmer hold for under high torque output.



#### Steel Ball Retainer:

The socket is held in place with a steel ball also allowing for a quick change of socket.



#### Dual-function Retainer:

The ratchet anvil design allows for the fitting of either the normal square drive socket or screwdriver hexagon bit.

## F. Trigger Types



**Composite Lever:**  
Ergonomic lever design giving increased operator comfort.



**Metal Lever:**  
Feather touch metal lever for easy control and improved durability.

## G. Handle Types



**Aluminum Handle Housing:**  
A durable and economic material that continues to be the most popular on the market.



**Composite Handle Grip:**  
Ergonomically designed giving maximum comfort and insulation from cold and vibration.

## H. Reverse Valve Types



**Reverse Switch:**  
For ordinary ratchet wrenches provides convenient forward and reverse selection.



**Push and Lock FIR Knob:**  
Prevents unintentional direction change on high-speed impact ratchet wrenches.

★ **KUANI** innovative design

# RATCHET

## **Impact Ratchet Wrench with Unicorn™ Clutch**

RATCHET



**Are conventional ratchets not fast and powerful enough?  
KUANI can offer you a more powerful, speedy, reactionless  
Unicorn™ Impact Ratchet Wrench**

The KUANI new Impact Ratchet Wrench series is equipped with the patented Unicorn™ Clutch design. The impact clutch will generate 3 times faster rundown and increase the ultimate torque output with a reduced 'kickback' force compared with traditional ratchet wrenches. The ergonomic composite handle grip absorbs the vibration and insulates from cold offering a longer operating time. This series delivers the highest performance and least fatigue.

**Benefits Highlight:**

- 3 times faster rundown
- 20% torque output increased
- Reactionless with reduced operator fatigue



**Head-Sealed Design**

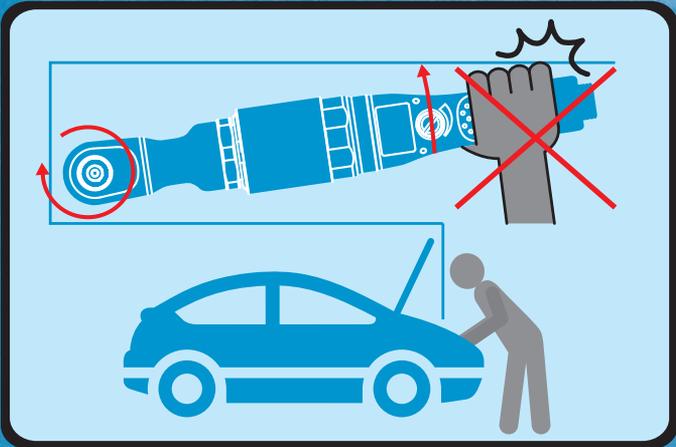
- Prevents dirt and debris from entering the inner ratchet mechanism
- The full caged metal housing prevents the ratchet head from distorting that may result in tool failure

**Unicorn™ Hammer Clutch**

- The KUANI patented Unicorn™ Hammer Clutch gives 20% increased torque output with 3 times faster run down speed and reduced kick back to prevent wrist injury

**Composite Grip**

- The ergonomic design gives maximum comfort and insulation from cold and vibration



**Reactionless**



**Rundown Speed**

# RATCHET

RATCHET

**KI-2223**

**Unicorn™ Hammer**

**1/4" SQ. DR. Super Duty Air Impact Ratchet Wrench**

**Handy & Powerful**

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed ratchet housing prolongs tool service life
- Max torque of 50 ft-lb (68 Nm) with 700 rpm free speed
- Compact and lightweight
- The best power to weight ratio of its class
- Ergonomic design for use in restricted spaces with optimized user comfort



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2223	1/4	700	50(68)	6.5(164)	1/4	3/8	3.1(88)	1.32(0.60)

**KI-2323**

**Unicorn™ Hammer**

**3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench**

**Handy & Powerful**

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed ratchet housing prolongs tool service life
- Max torque of 50 ft-lb (68 Nm) with 700 rpm free speed
- Compact and lightweight
- The best power to weight ratio of its class
- Ergonomic design for use in restricted spaces with optimized user comfort



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2323	3/8	700	50(68)	6.5(164)	1/4	3/8	3.1(88)	1.32(0.60)

## KI-2224

### Unicorn™ Hammer

#### 1/4" SQ. DR. Super Duty Air Impact Ratchet Wrench

##### Fast & Light

- The Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of ordinary ratchets
- Sealed ratchet housing head prolongs tool service life
- Delivers 45 ft-lb (61 Nm) of max torque with 700 rpm free speed
- Composite grip to reduce operator fatigue
- Ergonomic design for use in restricted spaces for optimal user comfort



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2224	1/4	700	45(61)	7.5(190)	1/4	3/8	3.1(88)	1.54(0.70)

## KI-2324

### Unicorn™ Hammer

#### 3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench

##### Fast & Light

- The Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of ordinary ratchets
- Sealed ratchet housing head prolongs tool service life
- Delivers 45 ft-lb (61 Nm) of max torque with 700 rpm free speed
- Composite grip to reduce operator fatigue
- Ergonomic design for use in restricted spaces for optimal user comfort



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2324	3/8	700	45(61)	7.5(190)	1/4	3/8	3.1(88)	1.54(0.70)

# RATCHET

RATCHET

**KI-2325**

**Unicorn™ Hammer**

## 3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench

### Durable & Ergonomic

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed & dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- 100 ft-lb (136 Nm) of max torque with 600 rpm free speed
- Push and lock F/R knob prevents unintentional direction change under high speed and torque manipulation
- Ergonomic design for use in restricted spaces with optimized user comfort
- Suitable for general tasks in garage, under-dashboard work, engine repair etc.



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2325	3/8	600	100(136)	11.9(301)	1/4	3/8	4.0(113)	3.97(1.80)

**KI-2425**

**Unicorn™ Hammer**

## 1/2" SQ. DR. Super Duty Air Impact Ratchet Wrench

### Durable & Ergonomic

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed & dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- 100 ft-lb (136 Nm) of max torque with 600 rpm free speed
- Push and lock F/R knob prevents unintentional direction change under high speed and torque manipulation
- Ergonomic design for use in restricted spaces with optimized user comfort
- Suitable for general tasks in garage, under-dashboard work, engine repair etc.



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2425	1/2	600	100(136)	11.9(301)	1/4	3/8	4.0(113)	3.97(1.80)

## KI-2326

### Unicorn™ Hammer

#### 3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench

##### Smooth & Efficient

- The Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of ordinary ratchets
- Sealed head, dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- 100 ft-lb (136 Nm) of max torque with 600 rpm free speed
- Impressive power for tough applications
- Low reaction impact mechanism designed to prevent operator injury



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2326	3/8	600	100(136)	11.5(292)	1/4	3/8	4.0(113)	3.26(1.48)

## KI-2426

### Unicorn™ Hammer

#### 1/2" SQ. DR. Super Duty Air Impact Ratchet Wrench

##### Smooth & Efficient

- The Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of ordinary ratchets
- Sealed head, dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- 100 ft-lb (136 Nm) of max torque with 600 rpm free speed
- Impressive power for tough applications
- Low reaction impact mechanism designed to prevent operator injury



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2426	1/2	600	100(136)	11.5(292)	1/4	3/8	4.0(113)	3.26(1.48)

# RATCHET

RATCHET

**KI-2319**

**Unicorn™ Hammer**

## 3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench

### Speedy & Powerful

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed & dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- Generates exceptional 120 ft-lb (163 Nm) of max torque with 600 rpm free speed
- 360° rotatable air inlet
- Push and lock F/R knob prevents unintentional direction change under high speed and torque manipulation
- Ergonomic composite grip optimizes operator comfort
- Extended length of tool for effortlessly accessing confined areas



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2319	3/8	600	120(163)	13.8(350)	1/4	3/8	4.2(119)	4.17(1.89)

**KI-2419**

**Unicorn™ Hammer**

## 1/2" SQ. DR. Super Duty Air Impact Ratchet Wrench

### Speedy & Powerful

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed & dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- Generates exceptional 120 ft-lb (163 Nm) of max torque with 600 rpm free speed
- 360° rotating air inlet
- Push and lock F/R knob prevents unintentional direction change under high speed and torque manipulation
- Ergonomic composite grip optimizes operator comfort
- Extended length of tool for effortlessly accessing confined areas



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2419	1/2	600	120(163)	13.8(350)	1/4	3/8	4.2(119)	4.17(1.89)

## KI-2328

### Unicorn™ Hammer

#### 3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench

##### High Torque & Reliable

- The Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of ordinary ratchets
- Sealed head, dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- Delivers 120 ft-lb (163 Nm) of max torque with 600 rpm free speed
- Exceptional power and speed, designed for removing tough fasteners
- Extended length for great accessibility
- Low reaction impact mechanism designed to prevent operator injury



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2328	3/8	600	120(163)	13.6(346)	1/4	3/8	4.0(113)	3.97(1.80)

## KI-2428

### Unicorn™ Hammer

#### 1/2" SQ. DR. Super Duty Air Impact Ratchet Wrench

##### High Torque & Reliable

- The Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of ordinary ratchets
- Sealed head, dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- Delivers 120 ft-lb (163 Nm) of max torque with 600 rpm free speed
- Exceptional power and speed, designed for removing tough fasteners
- Extended length for great accessibility
- Low reaction impact mechanism designed to prevent operator injury



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2428	1/2	600	120(163)	13.6(346)	1/4	3/8	4.0(113)	3.97(1.80)

# RATCHET

RATCHET

**KI-2320**

**Unicorn™ Hammer**

## 3/8" SQ. DR. Super Duty Air Impact Ratchet Wrench

### Extremely Powerful

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed & dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- 200 ft-lb (271 Nm) of max torque with 900 rpm free speed brings unprecedented performance
- Head height of under 2"
- Ergonomic TPR grip prevents slippage for increased control
- Push and lock F/R knob prevents unintentional direction change under high speed and torque manipulation
- Extended length of tool coupled with the strongest power and the fastest rundown speed offering easy access to remove any stubborn fasteners in an awkward working area



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2320	3/8	900	200(271)	15.3(389)	1/4	3/8	4.9(139)	5.51(2.50)

**KI-2420**

**Unicorn™ Hammer**

## 1/2" SQ. DR. Super Duty Air Impact Ratchet Wrench

### Extremely Powerful

- Equipped with the Unicorn™ Hammer clutch with reduced reaction force offering three times the work efficiency of the ordinary ratchets
- Head-sealed & dual pawl ratchet mechanism enhances smooth operation and prolongs tool service life
- 200 ft-lb (271 Nm) of max torque with 900 rpm free speed brings unprecedented performance
- Head height of under 2"
- Ergonomic TPR grip prevents slippage for increased control
- Push and lock F/R knob prevents unintentional direction change under high speed and torque manipulation
- Extended length of tool coupled with the strongest power and the fastest rundown speed offering easy access to remove any stubborn fasteners in an awkward working area



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2420	1/2	900	200(271)	15.3(389)	1/4	3/8	4.9(139)	5.51(2.50)

## **Head-Sealed Ratchet Wrench**

RATCHET



### ***The KUANI innovative Head-Sealed design trebles tool life and provides tremendous durability***

The head-sealed ratchet cover keeps debris and dirt out from the tool and the full caged ratchet housing prevents ratchet head from spreading under heavy workload or over-torque. These features significantly improve tool durability and ensure the tool stays at peak performance.

#### **Benefit Highlight**

- Stable, reliable and high performance
- Extreme durability, substantially prolongs the tool life by nearly 3 times

# RATCHET

RATCHET

## KI-2206

### 1/4" SQ. DR. Super Duty Mini Air Ratchet Wrench

#### Light & Short

- Delivers 200 rpm free speed with 20 ft-lb (27 Nm) max torque
- Mini size - only 0.50 kg and 135 mm in length
- Head-sealed and full caged design prolongs tool service life
- Compact and lightweight
- Designed for long working duration and limited space applications



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2206	1/4	200	20(27)	5.3(135)	1/4	3/8	3.7(103)	1.10(0.50)

## KI-2306

### 3/8" SQ. DR. Super Duty Mini Air Ratchet Wrench

#### Light & Short

- Delivers 300 rpm free speed with 40 ft-lb (54 Nm) max torque
- Mini size - only 0.50 kg and 135 mm in length
- Head-sealed design prolongs tool service life
- Compact and lightweight
- Designed for long working duration and limited space applications



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2306	3/8	300	40(54)	5.3(135)	1/4	3/8	3.7(103)	1.10(0.50)

## KI-2207

### 1/4" SQ. DR. Super Duty Air Ratchet Wrench

#### Compact

- Generates free speed at 250 rpm with max torque of 20 ft-lb (27 Nm)
- Head-sealed and full caged design enhances durability
- Textured rubber grip avoids slippage
- Lightweight, at just 0.66 kg reduces operator fatigue during heavy workload use



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2207	1/4	250	20(27)	8.1(205)	1/4	3/8	2.8(79)	1.46(0.66)

## KI-2307

### 3/8" SQ. DR. Super Duty Air Ratchet Wrench

#### Compact

- Generates free speed at 270 rpm with max torque of 40 ft-lb (54 Nm)
- Head-sealed and full caged design enhances durability
- Textured rubber grip avoids slippage
- Lightweight, at just 0.66 kg reduces operator fatigue during heavy workload use



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2307	3/8	270	40(54)	8.1(205)	1/4	3/8	2.8(79)	1.46(0.66)

# RATCHET

RATCHET

## KI-2317

### 3/8" SQ. DR. Super Duty Air Ratchet Wrench

#### Powerful & Durable

- Max torque of 80 ft-lb (108 Nm) with free speed at 280 rpm
- Head-sealed and dual pawl ratchet design strengthens the torque output and extends tool life
- Popular for automotive garage work
- Exceptional performance ensures max productivity
- Textured rubber grip avoids slippage



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2317	3/8	280	80(108)	10.2(260)	1/4	3/8	4.0(113)	2.73(1.24)

## KI-2417

### 1/2" SQ. DR. Super Duty Air Ratchet Wrench

#### Powerful & Durable

- Max torque 80 ft-lb (108 Nm) with free speed at 280 rpm
- Head-sealed and dual pawl ratchet design strengthens the torque output and extends tool life
- Popular for automotive garage work
- Exceptional performance ensures max productivity
- Textured rubber grip avoids slippage



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2417	1/2	280	80(108)	10.2(260)	1/4	3/8	4.0(113)	2.73(1.24)



Same features as KI-2417-IS with dual-function screwdriver bit retainer

## KI-2318

### 3/8" SQ. DR. Super Duty Air Ratchet Wrench

#### Advanced & Efficiency

- Great performance - 100 ft-lb (136 Nm) of max torque with 225 rpm free speed
- Head-sealed and dual pawl ratchet design strengthens the torque output and extends tool life
- The fiercest power of its class
- Extended tool length provides greater accessibility
- Textured rubber grip avoids slippage



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2318	3/8	225	100(136)	12.1(307)	1/4	3/8	4.0(113)	3.35(1.52)

## KI-2418

### 1/2" SQ. DR. Super Duty Air Ratchet Wrench

#### Advanced & Efficiency

- Great performance - 100 ft-lb (136 Nm) of max torque with 225 rpm free speed
- Head-sealed and dual pawl ratchet design strengthens the torque output and extends tool life
- The fiercest power of its class
- Extended tool length provides greater accessibility
- Textured rubber grip avoids slippage



Same features as KI-2418-IS with dual-function screwdriver bit retainer



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2418	1/2	225	100(136)	12.1(307)	1/4	3/8	4.0(113)	3.35(1.52)

# RATCHET

RATCHET

## KI-2202

### 1/4" SQ. DR. Super Duty Air Ratchet Wrench

#### Ergonomic & Light

- Delivers max torque of 20 ft-lb (27 Nm) with 250 rpm free speed
- Only 0.66 kg in weight
- Head-sealed design ensures longer tool working life
- Ergonomic and soft composite handle grip maximizes operator comfort



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2202	1/4	250	20(27)	8.1(205)	1/4	3/8	2.8(79)	1.46(0.66)

## KI-2302

### 3/8" SQ. DR. Super Duty Air Ratchet Wrench

#### Ergonomic & Light

- Delivers max torque of 40 ft-lb (54 Nm) with 270 rpm free speed
- Only 0.66 kg in weight
- Head-sealed design ensures longer tool working life
- Ergonomic and soft composite handle grip maximizes operator comfort



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2302	3/8	270	40(54)	8.1(205)	1/4	3/8	2.8(79)	1.46(0.66)

## KI-2407

### 1/2" SQ. DR. Super Duty Mini Air Ratchet Wrench

#### Ergonomic & Light

- Delivers max torque of 40 ft-lb (54 Nm) with 270 rpm free speed
- Only 0.70 kg in weight
- Air regulator with L / H stop-off points
- Ergonomic and soft composite handle grip maximizes operator comfort
- Compact size increases versatility



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2407	1/2	270	40(54)	7.7(195)	1/4	3/8	2.8(79)	1.54(0.70)

## KI-2312

### 3/8" SQ. DR. Super Duty Air Ratchet Wrench

#### Durable & Ergonomic

- 80 ft-lb (108 Nm) of max torque with 280 rpm free speed
- 360° rotating side air exhaust directs air flow away from workplace
- Smooth operation and power with the head-sealed and dual pawl ratchet mechanism
- Excellent power for efficiency and productivity
- Textured ergonomic grip eliminates slippage and operator fatigue



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2312	3/8	280	80(108)	10.9(277)	1/4	3/8	4.0(113)	2.73(1.24)

## KI-2412

### 1/2" SQ. DR. Super Duty Air Ratchet Wrench

#### Durable & Ergonomic

- 80 ft-lb (108 Nm) of max torque with 280 rpm free speed
- 360° rotating side air exhaust directs air flow away from workplace
- Smooth operation and power with the head-sealed and dual pawl ratchet mechanism
- Excellent power for efficiency and productivity
- Textured ergonomic grip eliminates slippage and operator fatigue



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2412	1/2	280	80(108)	10.9(277)	1/4	3/8	4.0(113)	2.73(1.24)



Same features as KI-2412-IS with dual-function screwdriver bit retainer

# RATCHET

RATCHET

## KI-2303

### 3/8" SQ. DR. Super Duty Air Ratchet Wrench

#### Premium Powerful

- Impressive performance - max torque of 100 ft-lb (136 Nm) with 225 rpm free speed
- 360° rotating side air exhaust directs air flow away from workplace
- Smooth operation and power with the head-sealed and dual pawl ratchet mechanism
- Ferocious power and speed for most tough applications
- Ergonomic composite handle optimizes the user comfort and insulates from cold
- Extended tool length for greater accessibility



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2303	3/8	225	100(136)	12.4(315)	1/4	3/8	4.0(113)	3.55(1.61)

## KI-2402

### 1/2" SQ. DR. Super Duty Air Ratchet Wrench

#### Premium Powerful

- Impressive performance - max torque of 100 ft-lb (136 Nm) with 225 rpm free speed
- 360° rotatable side air exhaust directs air flow away from workplace
- Smooth operation and power with the head-sealed and dual pawl ratchet mechanism
- Ferocious power and speed for most tough applications
- Ergonomic composite handle optimizes the user comfort and insulates from cold
- Extended tool length for greater accessibility



Same features as KI-2402-IS with dual-function screwdriver bit retainer



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2402	1/2	225	100(136)	12.4(315)	1/4	3/8	4.0(113)	3.57(1.62)

## KI-2322

### 3/8" SQ. DR. Heavy Duty Air Ratchet Wrench

#### The Best Value & Reliable

- Generates 80 ft-lb (108 Nm) of max torque with 210 rpm free speed
- 360° rotating side air exhaust directs air flow away from workplace
- Head-sealed and full caged ratchet design prolongs tool service life
- Fast and powerful
- Aluminum alloy housing for the best value and durability



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2322	3/8	210	80(108)	10.6(268)	1/4	3/8	4.5(127)	2.76(1.25)

## KI-2422

### 1/2" SQ. DR. Heavy Duty Air Ratchet Wrench

#### The Best Value & Reliable

- Generates 80 ft-lb (108 Nm) of max torque with 210 rpm free speed
- 360° rotating side air exhaust directs air flow away from workplace
- Head-sealed and full caged ratchet design prolongs tool service life
- Fast and powerful
- Aluminum alloy housing for the best value and durability



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2422	1/2	210	80(108)	10.6(268)	1/4	3/8	4.5(127)	2.78(1.26)

# RATCHET

RATCHET

## ***Classic Ratchet Wrench***

### ***Looking for durable and economic ratchets?***

The classic aluminum ratchet series remains popular in the automotive repair market nowadays. It provides good value and high durability that is ideal for heavy-duty users.

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#### ***Benefit Highlight***

- Economic and reasonable tool service life

RATCHET



# RATCHET

RATCHET

## KW-215

### 1/4" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Compact

- Generates 20 ft-lb (27 Nm) of max torque with 250 rpm free speed
- Only 166 mm in length and 0.50 kg of weight
- Compact and lightweight
- Ideal for use in confined areas



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-215	1/4	250	20(27)	6.5(166)	1/4	1/4	2.5(71)	1.10(0.50)

## KW-315

### 3/8" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Compact

- Generates 40 ft-lb (54 Nm) of max torque with 250 rpm free speed
- Only 166 mm in length and 0.50 kg of weight
- Compact and lightweight
- Ideal for use in confined areas



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-315	3/8	250	40(54)	6.5(166)	1/4	1/4	2.5(71)	1.10(0.50)

## KW-216

### 1/4" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Handy

- Max torque of 20 ft-lb (27 Nm) with free speed at 250 rpm
- Only 165 mm in length and 0.52 kg of weight
- The best-selling 1/4" ratchet wrench
- Compact and lightweight
- Ideal for use in tight spaces



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-216	1/4	250	20(27)	6.5(165)	1/4	1/4	2.5(71)	1.15(0.52)

## KW-316

### 3/8" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Handy

- Max torque of 40 ft-lb (54 Nm) with free speed at 250 rpm
- Only 165 mm in length and 0.52 kg of weight
- Compact and lightweight
- Ideal for use in tight spaces



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-316	3/8	250	40(54)	6.5(165)	1/4	1/4	2.5(71)	1.15(0.52)

RATCHET

# RATCHET

RATCHET

## KW-218

### 1/4" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Great Accessibility

- Delivers max torque of 20 ft-lb (27 Nm) with 250 rpm free speed
- Length in 190 mm but weight just 0.58 kg
- Long neck design for greater accessibility
- Lightweight reduces user fatigue during heavy workload



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-218	1/4	250	20(27)	7.5(190)	1/4	1/4	2.5(71)	1.28(0.58)

## KW-318

### 3/8" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Great Accessibility

- Delivers max torque of 40 ft-lb (54 Nm) with 250 rpm free speed
- Length in 190 mm but weight just 0.58 kg
- Long neck design for greater accessibility
- Lightweight reduces user fatigue during heavy workload



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-318	3/8	250	40(54)	7.5(190)	1/4	1/4	2.5(71)	1.28(0.58)

## KW-350

### 3/8" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Standard

- Max torque 50 ft-lb (68 Nm) with free speed at 150 rpm
- Long neck design
- The best-selling 3/8" ratchet wrench
- Easy to reach deep areas
- Ergonomic handle increases operating comfort and prevents slippage



RATCHET



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-350	3/8	150	50(68)	10.5(267)	1/4	3/8	6.0(170)	2.58(1.17)

## KW-450

### 1/2" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Standard

- Max torque 50 ft-lb (68 Nm) and free speed 150 rpm
- Long neck design
- The best-selling 1/2" ratchet wrench
- Easy to reach deep areas
- Ergonomic handle increases operating comfort and prevents slippage



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-450	1/2	150	50(68)	10.5(267)	1/4	3/8	6.0(170)	2.58(1.17)

# RATCHET

RATCHET

## KW-351

### 3/8" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Premium Power & Speed

- Generates 60 ft-lb (81 Nm) of max torque with 160 rpm free speed
- 267 mm in length and 1.17 kg of weight
- Powerful and speedy
- Ergonomic handle increases operating comfort and prevents slippage
- Hardened ratchet housing enhances durability



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-351	3/8	160	60(81)	10.5(267)	1/4	3/8	4.2(119)	2.58(1.17)

## KW-451

### 1/2" SQ. DR. Heavy Duty Air Ratchet Wrench

#### Premium Power & Speed

- Generates 60 ft-lb (81 Nm) of max torque with 160 rpm free speed
- 267 mm in length and 1.17 kg of weight
- Powerful and speedy
- Ergonomic handle increases operating comfort and prevents slippage
- Hardened ratchet housing enhances durability



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KW-451	1/2	160	60(81)	10.5(267)	1/4	3/8	4.2(119)	2.58(1.17)

# KI-2603

## 1/2" SQ. DR. Heavy Duty Air Ratchet Wrench

RATCHET

### Long Version & Powerful

#### Features

- Delivers 90 ft-lb (122 Nm) of max torque and 150 rpm free speed
- Length in 360 mm

#### Benefits

- A valuable and quality tool for high torque applications
- Extended head and handle design allows ultimate control and deep access



MODEL	SQUARE DRIVE INCH	FREE SPEED R. P. M.	MAX TORQUE @5 SEC. f t.lb(Nm)	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2603	1/2	150	90(122)	14.2(360)	1/4	3/8	5.3(150)	4.41(2.00)

# INDEX

RATCHET

Index sequenced by Anvil Size > Torque > Free Speed > Weight > Length

MODEL	PAGE	SQUARE DRIVE INCH	MAX TORQUE @5 SEC. ft.lb(Nm)	FREE SPEED R. P. M.	OVERALL LENGTH INCH(mm)	AIR INLET INCH	AIR HOSE I.D	AVG. AIR CONSUMPTION cfm(L/min)	NET WEIGHT lbs(kg)
KI-2206	P17	1/4	20 (27)	200	5.3 (135)	1/4	3/8	3.7 (103)	1.10 (0.50)
KW-216	P28	1/4	20 (27)	250	6.5 (165)	1/4	1/4	2.5 (71)	1.15 (0.52)
KW-215	P27	1/4	20 (27)	250	6.5 (166)	1/4	1/4	2.5 (71)	1.10 (1.50)
KW-218	P29	1/4	20 (27)	250	7.5 (190)	1/4	1/4	2.5 (71)	1.28 (0.58)
KI-2202	P21	1/4	20 (27)	250	8.1 (205)	1/4	3/8	2.8 (79)	1.46 (0.66)
KI-2207	P18	1/4	20 (27)	250	8.1 (205)	1/4	3/8	2.8 (79)	1.46 (0.66)
KI-2224	P10	1/4	45 (61)	700	7.5 (190)	1/4	3/8	3.1 (88)	1.54 (0.70)
KI-2223	P9	1/4	50 (68)	700	6.5 (164)	1/4	3/8	3.1 (88)	1.32 (0.60)
KW-315	P27	3/8	40 (54)	250	6.5 (166)	1/4	1/4	2.5 (71)	1.10 (0.50)
KW-316	P28	3/8	40 (54)	250	6.5 (165)	1/4	1/4	2.5 (71)	1.15 (0.52)
KW-318	P29	3/8	40 (54)	250	7.5 (190)	1/4	1/4	2.5 (71)	1.28 (0.58)
KI-2302	P21	3/8	40 (54)	270	8.1 (205)	1/4	3/8	2.8 (79)	1.46 (0.66)
KI-2307	P18	3/8	40 (54)	270	8.1 (205)	1/4	3/8	2.8 (79)	1.46 (0.66)
KI-2306	P17	3/8	40 (54)	300	5.3 (135)	1/4	3/8	3.7 (103)	1.10 (0.50)
KI-2324	P10	3/8	45 (61)	700	7.5 (190)	1/4	3/8	3.1 (88)	1.54 (0.70)
KW-350	P30	3/8	50 (68)	150	10.5 (267)	1/4	3/8	6.0 (170)	2.58 (1.17)
KI-2323	P9	3/8	50 (68)	700	6.5 (164)	1/4	3/8	3.1 (88)	1.32 (0.60)
KW-351	P31	3/8	60 (81)	160	10.5 (267)	1/4	3/8	4.2 (119)	2.58 (1.17)
KI-2322	P24	3/8	80 (108)	210	10.6 (268)	1/4	3/8	4.5 (127)	2.76 (1.25)
KI-2317	P19	3/8	80 (108)	280	10.2 (260)	1/4	3/8	4.0 (113)	2.73 (1.24)
KI-2312	P22	3/8	80 (108)	280	10.9 (277)	1/4	3/8	4.0 (113)	2.73 (1.24)
KI-2318	P20	3/8	100 (136)	225	12.1 (307)	1/4	3/8	4.0 (113)	3.35 (1.52)
KI-2303	P23	3/8	100 (136)	225	12.4 (315)	1/4	3/8	4.0 (113)	3.55 (1.61)
KI-2326	P12	3/8	100 (136)	600	11.5 (292)	1/4	3/8	4.0 (113)	3.26 (1.48)
KI-2325	P11	3/8	100 (136)	600	11.9 (301)	1/4	3/8	4.0 (113)	3.97 (1.80)
KI-2328	P14	3/8	120 (163)	600	13.6 (346)	1/4	3/8	4.0 (113)	3.97 (1.80)
KI-2319	P13	3/8	120 (163)	600	13.8 (350)	1/4	3/8	4.2 (119)	4.17 (1.89)
KI-2320	P15	3/8	200 (271)	900	15.3 (389)	1/4	3/8	4.9 (139)	5.51 (2.50)
KI-2407	P21	1/2	40 (54)	270	7.7 (195)	1/4	3/8	2.8 (79)	1.54 (0.70)
KW-450	P30	1/2	50 (68)	150	10.5 (267)	1/4	3/8	6.0 (170)	2.58 (1.17)
KW-451	P31	1/2	60 (81)	160	10.5 (267)	1/4	3/8	4.2 (119)	2.58 (1.17)
KI-2422	P24	1/2	80 (108)	210	10.6 (268)	1/4	3/8	4.5 (127)	2.78 (1.26)
KI-2417	P19	1/2	80 (108)	280	10.2 (260)	1/4	3/8	4.0 (113)	2.73 (1.24)
KI-2412	P22	1/2	80 (108)	280	10.9 (277)	1/4	3/8	4.0 (113)	2.73 (1.24)

To improve this tool, minor adjustments might have been applied in each batch. Please check the latest figures to confirm your preferences.



# SOUND & VIBRATION

RATCHET

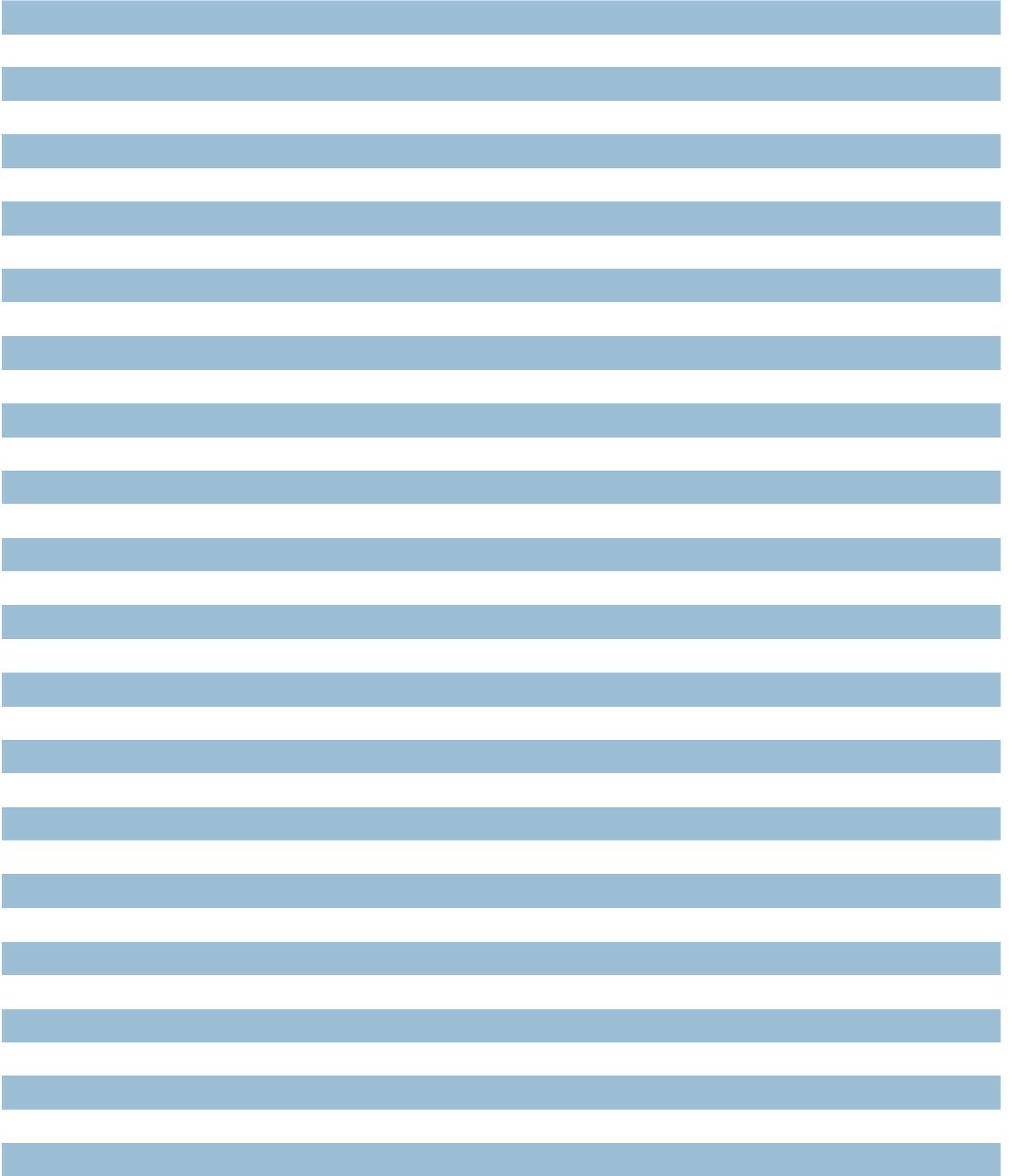
Index sequenced by Model

MODEL	PAGE	Sound				Vib.		Report No.
		Pressure	Power	Pressure	K	M/S <sup>2</sup>	K	
		db(A)	db(A)	db(C)	(DB)			
KI-2202	P21	88.31	99.3	91.8	3	3.01	0.79	1006043
KI-2206	P17	86	97	101	3	3.50	0.95	1207017
KI-2207	P18	92.7	103.7	104	3	2.87	0.78	1411016
KI-2223	P9	90.6	101.6	106	3	8.61	1.35	1408024
KI-2224	P10	94.5	105.5	108	3	6.99	1.19	1411012
KI-2302	P21	90	101	105	3	4.80	0.97	1111037
KI-2303	P23	96.68	107.67	97.3	3	2.14	0.71	1004055
KI-2306	P17	92	103	108	3	3.90	0.89	1103042
KI-2307	P18	92	103	94	3	3.47	0.92	1008011
KI-2312	P22	96.07	107.06	97.1	3	3.70	0.86	1004053
KI-2317	P19	98.94	109.94	98.7	3	4.64	0.95	1004052
KI-2318	P20	95.32	106.31	95.6	3	3.07	0.80	1004051
KI-2319	P13	92	103	110	3	8.10	1.29	1212004
KI-2320	P15	97.7	108.7	115	3	13.47	4.52	1411017
KI-2322	P24	93	104	106	3	3.58	0.85	1303002
KI-2323	P9	89.6	100.6	107	3	13.71	1.85	1408025
KI-2324	P10	94.9	105.9	111	3	8.24	1.30	1411011
KI-2325	P11	94	105	111	3	8.80	1.37	1501009
KI-2326	P12	96	107	112	3	10.45	1.53	1410001
KI-2328	P14	100.4	111.4	114	3	7.96	1.29	1411013
KI-2402	P23	94	105	107	3	6.50	1.14	1003036
KI-2407	P21	90	101	105	3	4.60	0.95	1111038
KI-2412	P22	96.68	107.68	98.2	3	9.85	1.47	1006042
KI-2417	P19	97.6	108.6	113	3	11.00	1.58	1411015
KI-2418	P20	95	106	109	3	5.70	1.06	1104013
KI-2419	P13	95	106	113	3	13.00	1.80	1312001 1312002
KI-2420	P15	99	110	119	3	15.70	2.05	1411018
KI-2422	P24	92	103	107	3	3.91	0.88	1303003
KI-2425	P11	97.3	108.3	116	3	14.61	2.89	1501010
KI-2426	P12	94.9	105.9	112	3	18.28	2.31	1410002
KI-2428	P14	98.7	109.7	117	3	14.43	1.93	1411014
KI-2603	P32	99.82	110.81	101	3	2.77	0.77	1004004
KW-215	P27	87.8	98.8	103	3	4.09	0.91	1503006
KW-216	P28	87.82	98.81	89.2	3	3.31	0.82	1004047

To improve this tool, minor adjustments might have been applied in each batch. Please check the latest figures to confirm your preferences.



## ***NOTE***

A series of 20 horizontal blue lines, evenly spaced, intended for writing notes. The lines are light blue and extend across most of the page width.





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