



Cleco®

Pneumatic Assembly Tools



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Cleco®



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Screwdrivers



A tradition of quality is built into every screwdriver.

Cleco screwdrivers have long been recognized as the assembly tool standard against which all other brands are measured. With over 100 years of precision manufacturing experience built into each tool, Cleco screwdrivers provide users the ultimate in light and medium duty assembly tool performance.

Cleco's long standing tradition of service to the customer has led us to develop an extensive line of screwdrivers with configurations to suit a broad range of applications. Options including multiple reversing methods, different clutch styles, numerous handle alternatives, and a wide variety of accessories provide the building blocks for tool configurations designed to meet our customers' unique assembly application requirements.

The Cleco 2 series of inline Clecomatic screwdrivers offer dependable repetitive torque accuracy from .5 to 8 in.-lbs., ideal for miniature assemblies often found in extra light-duty electronics assembly using #0 to #5 screws.

In the light to medium duty assembly tool market, the ergonomically designed Cleco 19 series screwdrivers, with a torque range of 0.6 to 130 in.-lbs., are the ultimate tools for an infinite range of applications including electronics, automotive, aerospace, appliance and general assembly.

With a torque range of 15 to 180 in.-lbs (1.7 to

60 MONTH WARRANTY

Cleco® 19 & 8 Series Clecomatic® Screwdrivers

Apex Tool Group warrants the 19 and 8 series Clecomatic screwdrivers and parts to be free from defects in workmanship and material of the life of the tool. The clutch assemblies are warranted for SIXTY MONTHS against failure or wear causing malfunction.

Apex Tool Group's obligation under this warranty is to repair or replace, without charge to the original purchaser, any part which does not meet the warranty outlined above during the active commercial production of this tool. This tool is to be returned to the factory with carrying charges prepaid.

This warranty shall not apply to any product that has been fixture mounted or subjected to misuse, negligence or accident; or in which parts not made or supplied by Apex Tool Group shall have been used; or which shall have been altered or repaired by other than Apex Tool Group personnel in a manner which in the determination of Apex Tool Group shall have affected its operation.

THIS WARRANTY CONSTITUTES THE ENTIRE OBLIGATION OF THE COMPANY RELATING TO THE SALE AND USE OF SUCH PRODUCT AND ITS MAXIMUM LIABILITY IS LIMITED TO THE PURCHASE PRICE OF SUCH PRODUCT. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR CONSEQUENTIAL, INDIRECT, INCIDENTAL OR SPECIAL DAMAGES OF ANY NATURE ARISING FROM THE SALE OR USE OF SUCH PRODUCT.

20Nm), the 8 & 88 series Cleco screwdrivers cover the gamut of medium duty assembly applications ranging from lawn and garden equipment to small recreational vehicles, and even aerospace.

Capable of running down fasteners as large as 5/16 (M6), the Cleco 35 series screwdrivers are the true workhorses of the medium to heavy-duty screw assembly market.





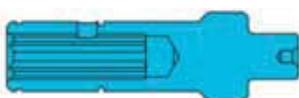
Choose the right tool to match your application.



New Clecomatic® Clutch

Clecomatic® Clutch

When tightening a fastener, torque is transmitted through the Clecomatic clutch to the fastener until the clutch can no longer transmit the increasing torque. The clutch then "slips", which allows an internal mechanism to seal off air to the air motor, shutting off the tool at the user-adjusted preset torque level. This type of torque control allows maximum RPM from the tool for increased productivity. Since the tool doesn't dwell on the fastener as with a stall tool, tool wear and fatigue to the operator is reduced. The life of a Clecomatic tool is up to five times longer than that of a lever-operated, ratcheting clutch screwdriver.



Stall Type

Stall Type

The stall tool doesn't use a clutch but rather the output spindle is coupled to the last stage of gearing. Torque output from a stall tool may be controlled within fairly reasonable limits with an air pressure regulator. Stall type tools are also trigger activated.

CLUTCH SELECTION GUIDE FOR COMMON FASTENING APPLICATIONS

CLUTCH TYPE	APPLICATION	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT Where seating torque exceeds tapping torque	EXCELLENT
Clecomatic®	STANDARD BOLT & NUT					
Stall Drive	FAIR Under certain conditions	GOOD Under certain conditions	FAIR Under certain conditions	FAIR Under certain conditions	FAIR Under certain conditions	FAIR

Accuracy. Durability.

Built by your expertise and our experience

Your productivity is our greatest influence. The development of the Cleco 19 Series is driven by experts—you, the very people that have depended on Cleco assembly products for over a century.

Whatever your application, consider it done

We set out to design the most accurate, longest-lasting, most user-friendly screwdriver family on the market. Our widespread configurations and applications ensure that you will find the ideal screwdriver or nutrunner.



Designed for the most demanding jobs

Continuously improving end-product quality is evermore critical. The Cleco 19 Series is engineered for the most demanding fastening applications where accuracy, repeatability, and durability are held to the strictest standard. Imagine what the Cleco 19 Series can do for you.

Adding value to your business

With a new powertrain design, the Cleco 19 Series tools have reached a new milestone in performance and accuracy. This, combined with legendary Cleco reliability, means you will have the sustained power to get it right the first time, every time.

Designed with the operator in mind

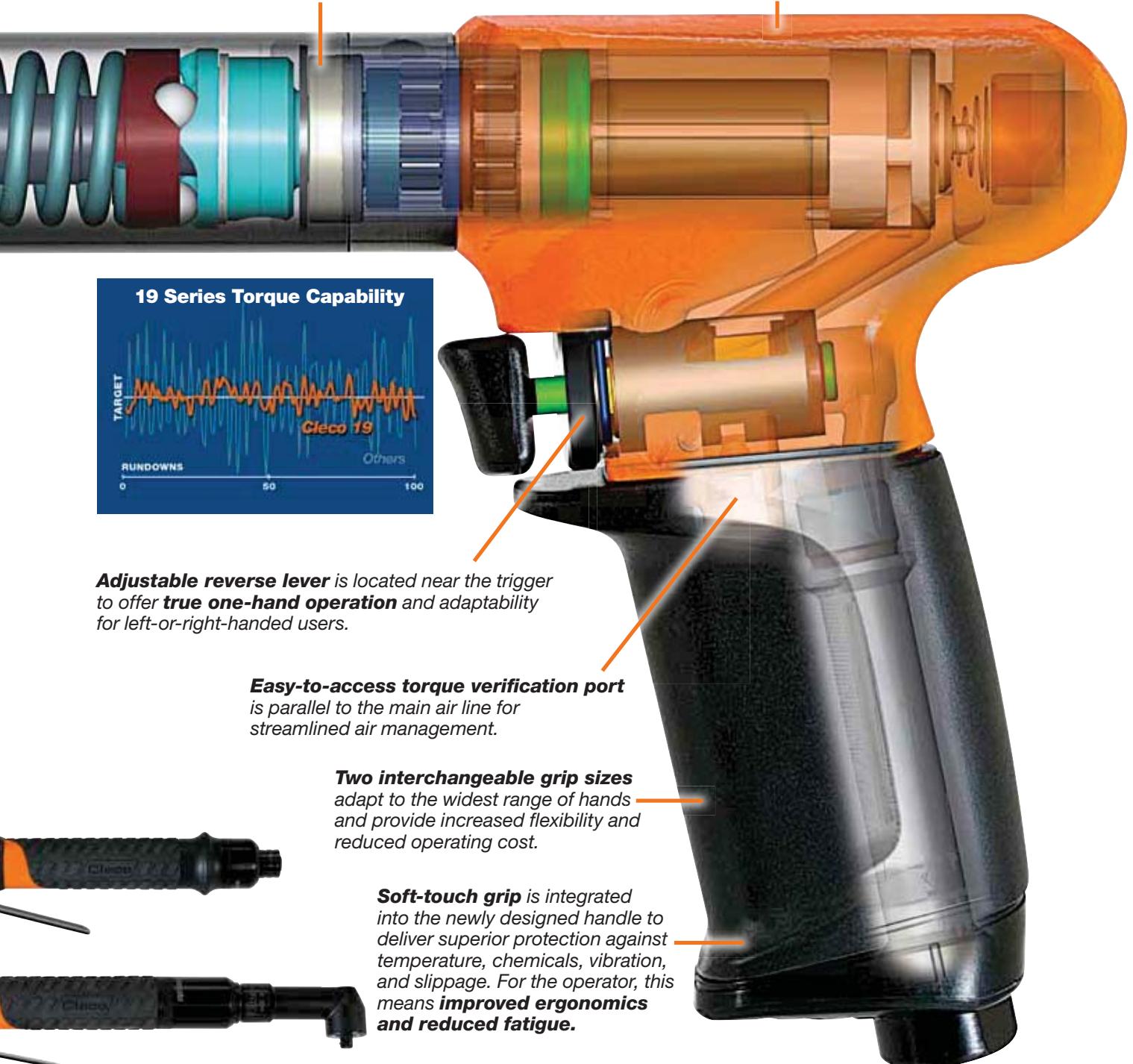
A soft-touch grip is integrated into the new handle design to provide superior protection from temperature, chemicals, vibration, and slip. What's more, Cleco 19 Series pistol tools offer two interchangeable handle sizes to bring comfort to a wider array of operators. These features, plus reduced weight and a balanced design, will raise productivity, tool flexibility, and reduce maintenance costs.



Quality. Productivity.

Completely re-engineered **Cleomaticic®** clutch delivers **best-in-class accuracy**, exceeding a Cm of 2.0 with a tolerance of $\pm 10\%$.

New design and advanced materials yield up to **19% weight reduction** based on configuration, at no loss of balance or durability.



Inline Screwdrivers

2, 19, 8, 88, 35 Series Clecomatic Clutch



2 Series

Torque Range: .06 - .9 Nm 0.5 - 8 In. Lbs.

- Push-to-start
- Push button reverse
- External torque adjustment
- 1/4" quick change chuck

19 Series

Torque Range: 0.6 - 14.7 Nm 5 - 130 In. Lbs.

- Push-to-start and Push & Lever start
- External torque adjustment
- Bit & Finder & 1/4" quick change chuck

8 Series

Torque Range: 1.7 - 8.5 Nm 15.0 - 75 In. Lbs.

- Push button reverse and non-reversible
- Push-to-start and Push & Lever start
- Bit & Finder and Quick change

88 Series

Torque Range: 1.7 - 19 Nm 15 - 170 In. Lbs.

- Push button reverse and non-reversible
- Push-to-start and Push & Lever start
- Quick change & 3/8" square drive

35 Series

Torque Range: 1.7 - 20 Nm 15 - 180 In. Lbs.

- Quick change and square drive
- Short stroke button reverse
- External torque adjustment
(Quick change models)



Pistol Grip Screwdrivers

19 Series Clecomatic Clutch

Cleco®

19 Series

Torque Range: 0.6-14.7 Nm 5.0-130 In. Lbs.

- Class-leading accuracy and repeatability
- Adjustable reverse lever for true one-hand – left-handed or right-handed – operation
- External torque adjustment
- 1/4" hex quick change drive
- "P" and "T" style handles
- 2 interchangeable soft-touch grip sizes
- Streamlined torque signal ports
- Trigger and Push & Trigger start

NEW!



19TTA02Q
"T" Handle

The renowned Clecomatic® clutch is re-engineered to provide class-leading accuracy/repeatability and improve the already legendary durability.

19PTA05Q
"P" Handle



The "P" handle is best suited for thread cutting fasteners where force must be exerted against the ergonomically shaped "P" handle during the process.



Pistol Grip Screwdrivers

88 & 35 Series Clecomatic Clutch

Cleco®

88 Series

Torque Range: 1.7 – 20 Nm 15 – 180 In. Lbs.

- Quick change and square drive
- Reversible
- Trigger and Push & Trigger start



88RSAPT-5C-3

35 Series

Torque Range: 1.7 – 20 Nm 15 – 180 In. Lbs.

- Pistol grip
- Quick change and square drive
- Reversible
- Trigger, Push-to-Start and Push & Trigger start



35RSATP-10Q

Model Number		Torque Range		Free Speed RPM	Length		Weight		Air Consumption		
1/4" Hex Quick Change	3/8" Square Drive	in.-lbs.	Nm		in.	mm	lbs.	kg	Air Inlet NPT	Min. Hose I.D.	SCFM
Push and Trigger Start - Sliding Knob Reverse											
88RSAPT-7CQ		15 - 95	1.7 - 10	550	9.0	229	3.1	1.4	1/4"	1/4"	19
88RSAPT-5CQ	88RSAPT-5C-3	15 - 160	1.7 - 18	400	9.0	229	3.1	1.4	1/4"	1/4"	19
88RSAPT-2CQ		15 - 180	1.7 - 20	200	9.8	248	3.4	1.5	1/4"	1/4"	19
Trigger Start - Sliding Knob Reverse											
88RSATP-7CQ	88RSATP-7C-3	15 - 95	1.7 - 10	550	8.9	225	3.1	1.4	1/4"	1/4"	19
88RSATP-5CQ	88RSATP-5C-3	15 - 160	1.7 - 18	400	8.9	225	3.1	1.4	1/4"	1/4"	19
88RSATP-2CQ	88RSATP-2C-3	15 - 180	1.7 - 20	200	9.6	245	3.4	1.5	1/4"	1/4"	19

General:

Tool performance rated at 90 psi (620kPa).
Weight does not include dead handle

Standard Equipment:

Operating instructions & service manual
Dead handle on all models above 100 in.lbs. torque
All torque springs required to meet indicated torque

Optional Equipment:

Additional accessories: Pages 12-13
Bits & finders: Page 12
Torque Springs: Page 13

Standard Equipment if Specified:

Dead handle (861006)

Model Number		Torque Range		Free Speed RPM	Length		Weight		Air Consumption		
1/4" Hex Quick Change	3/8" Square Drive	in.-lbs.	Nm		in.	mm	lbs.	kg	Air Inlet NPT	Min. Hose I.D.	SCFM
Push-to-Start - Sliding Knob Reverse											
35RSAP-10Q		15 - 110	2 - 12	770	9.9	251	3.4	1.5	1/4"	5/16"	24
35RSAP-7Q		15 - 160	2 - 18	510	9.9	251	3.4	1.5	1/4"	5/16"	24
Push and Trigger Start - Sliding Knob Reverse											
35RSAPT-7Q		15 - 160	2 - 18	500	9.9	251	3.4	1.5	1/4"	5/16"	24
35RSAPT-5Q		15 - 180	2 - 20	350	9.9	251	3.4	1.5	1/4"	5/16"	24
Trigger Start - Sliding Knob Reverse											
35RSATP-20Q		15 - 60	2 - 7	1500	9.0	229	3.1	1.4	1/4"	5/16"	24
35RSATP-10Q	35RSATP-10-3	15 - 110	2 - 12	750	9.8	248	3.4	1.5	1/4"	5/16"	24
35RSATP-7Q		15 - 160	2 - 18	500	9.8	248	3.4	1.5	1/4"	5/16"	24
35RSATP-5Q	35RSATP-5-3	15 - 180	2 - 20	350	9.8	248	3.4	1.5	1/4"	5/16"	24

General:

Tool performance rated at 90 psi (620kPa).
Weight does not include dead handle

Standard Equipment:

Operating instructions & service manual
Dead handle on all models above 100 in.lbs. torque
All torque springs required to meet indicated torque

Standard Equipment if Specified:

Dead handle (861006)

Optional Equipment:

Additional accessories: Pages 12-13
Torque Springs: Page 13

Screwdrivers

19 & 8 Series Stall

Cleco®

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19 Series Stall

Torque Range: 2.1 – 7.9 Nm 19 – 70 In. Lbs.

- 1/4" hex quick change drive
- Trigger start
- "P" and "T" style handles (19 series)
- 2 interchangeable soft-touch grip sizes (19 Series)
- Adjustable reverse lever for true one-hand - left or right - operation (19 series)
- Sliding knob or push button reverse (8 series)



Model Number	Torque Range		Free Speed	Length		Weight		Air Consumption		
	in.-lbs.	Nm		RPM	in.	mm	lbs.	kg	Air Inlet NPT	Min. Hose I.D.
1/4" Quick Change										
Trigger Start - T Handle - Sliding Knob Reverse										
19TTS02Q	19	2.1	2800	5.8	146	1.19	0.5	1/4"	3/8"	11
19TTS03Q	26	2.9	1900	6.1	154	1.19	0.5	1/4"	3/8"	11
19TTS04Q	40	4.5	1100	5.8	146	1.19	0.5	1/4"	3/8"	11
19TTS05Q	45	5.1	660	6.1	154	1.19	0.5	1/4"	3/8"	11
8RNP-20BQ	44	5.0	1800	5.4	137	2.1	1.0	1/4"	1/4"	19
8RNP-10BQ	70	7.9	800	6.1	156	2.4	1.1	1/4"	1/4"	19
Trigger Start - P Handle - Sliding Knob Reverse										
19PTS02Q	19	2.1	2800	5.9	150	1.16	0.5	1/4"	3/8"	11
19PTS03Q	26	2.9	1900	6.1	155	1.16	0.5	1/4"	3/8"	11
19PTS04Q	40	4.5	1100	5.9	150	1.16	0.5	1/4"	3/8"	11
19PTS05Q	45	5.1	660	6.1	155	1.16	0.5	1/4"	3/8"	11

General:
Tool performance rated at 90 psi (620kPa).

Dead handle on all models above 100 in.lbs. torque

Optional Equipment:

Additional accessories: Pages 12-13

Standard Equipment:

Standard Equipment if Specified:

Bits: Page 12

Operating instructions & service manual

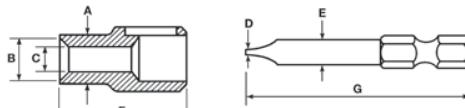
Dead handle (861006; 8 series models)

Suspension bail

All torque springs required to meet indicated torque

Screwdriver Accessories

Standard and Extended Flat Bits and Finders



Screw Size	Standard Length (F=1 3/16 in.; G= 1 15/16 in.)		Finder Dimensions (in.)			Bit Dimensions (in.)		Extended Length (F=2 1/4 in.; G= 3 in.)	
	Bit No.	Finder No.	A	B	C	D	E	Bit No.	Finder No.
1F- 2R	849617	847299	.22	.169	.128	.026	.122	849891	847481
2F- 3R	849843	863242	.250	.196	.140	.028	.134	849879	847480
3F- 4R	849618	847300	.285	.228	.160	.032	.154	849892	847482
4F- 5R	849153	847301	.315	.259	.193	.034	.187	849893	847483
5F- 6R	849619	847302	.345	.291	.221	.036	.215	849894	847484
6F- 8R	849154	847303	.380	.323	.256	.038	.250	849895	847485
8F-10R	849620	847294	.445	.386	.281	.042	.275	849896	847486
10F-12R	849155	847304	.530	.431	.318	.046	.312	849897	847487
12F-14R	849156	847305	.590	.513	.366	.050	.360	849898	847488

Phillips Bits and Support Bushings



Phillips Bit Point Size	Bit Body Diameter (in.)	Phillips Bit Part No.	Support Bushing* Part No.
Standard: 1/4 in. Hex Shank Bit – 2 3/4 in. O.A. Length; Bushing – 1 3/16 in. O.A. Length			
1	3/16	809451	847301
2	1/4	809470	847303
3	5/16	809471	847304
Extended: 1/4 in. Hex Shank Bit – 3 1/2 in. O.A. Length; Bushing – 2 1/4 in. O.A. Length			
1	3/16	809453	847483
2	1/4	809473	847485
3	5/16	809474	847487

*Bushing not required on Quick Change models.

Finder Springs

Light Force

844000

Medium Force

865728

Bit Holders and Support Bushings



1/4" Hex Drive Magnetic Bit Holder

Part No. 849325 (2 3/8" O.A. Length)

Magnetic Support Bushing*

Part No. 849621

Nonmagnetic Support Bushing*

Part No. 847245

Quick-Change Bushing

Part No. 201203

Fits all finder type tools except No. 2 Screwdriver

*Bushing not required on Quick Change models.

Screw Sizes & Types



Screw Size	Approximate Thread Body Diameter (inches)	Maximum Head Diameter (inches)								Width of Slot Max. - Min. (inches)
		Round Head	Flat Head	Oval Head	Fillister Head	Pan Head	Binding Head	Truss Head		
0	.058	.113	.119	.119	.096	.116	–	.131	.023 - .016	
1	.071	.138	.146	.146	.118	.142	–	.164	.026 - .019	
2	.084	.162	.172	.172	.140	.167	.181	.194	.031 - .023	
3	.096	.187	.199	.199	.161	.193	.208	.226	.035 - .027	
4	.109	.211	.225	.225	.183	.219	.235	.257	.039 - .031	
5	.122	.236	.252	.252	.205	.245	.263	.289	.043 - .035	
6	.135	.260	.279	.279	.226	.270	.290	.321	.048 - .039	
8	.161	.309	.332	.332	.270	.322	.344	.384	.054 - .045	
10	.187	.359	.385	.385	.313	.373	.399	.448	.060 - .050	
12	.213	.408	.438	.438	.357	.425	.454	.511	.067 - .056	
1/4	.247	.472	.507	.507	.414	.492	.513	.573	.075 - .064	
5/16	.309	.590	.635	.635	.518	.615	.641	.698	.084 - .072	

Inline Screwdriver Clutch Torque Springs

Spring Color	Torque Range		Ordering No.
	In. Lbs.	Nm	
2 Series			
Blue	1.5-.5	17-.06	202870
Green	8-1	.9-.1	202869
19 Series			
Green	19-5	--	207652PT
White	38-10	4.3-1.1	207596PT
Orange	45-15	5.1-1.7	207696PT
8 Series			
Blue	17-7	1.9-.8	869203
Green	55-15	6.2-1.7	867938
Red	75-35	8.5-4	867931
88, 35 Series			
Green	55-15	6-2	202822
Yellow	160-35	18-4	869306
Red	180-60	20-7	869305

Note: Torque listed is immediately after the clutch and does not take into consideration torque multiplication after the clutch, such as additional planetary gears or right angle heads.



Exhaust Overhose & Adapter



Order No.	Description	Used On
207019	Overhose	19 series inline & right angle
869204	Adapter	8, 88, 35 series inline, push-to-start

Piped Away Exhaust Hose Adapter



Order No.	Used On
203632	5 series inline
203808	8, 88, 35 series inline p-t-start

Dead Handle

Ordering No.	Used On
201770	5 series, 19 series
861006	8, 88, 35 series



Handle Grips

Order No.	Grip Type	Used On
202464	Round inline	2 series
869734	Round inline	5 series
203621	Tri-roundular inline	5 series
202346	Round inline	8 series p-t-start
203762	Pistol grip	5 series
203833	Pistol grip	8, 88, 35 series



Suspension Bails

Order No.	Used On
931962	19 series
869168	2 series
865777	5 series inline & 8, 88 series inline push-to-start
412603	5 series pistol grip & 8, 88 series inline lever start



Torque Signal Kits

Part No.	Tool Used On
301106	19SCA & 19RAA series (inline & right angle)
302021PT	19TTA & 19PTA series (pistol "P" handle or "T" handle)

Portable Tool Balancers

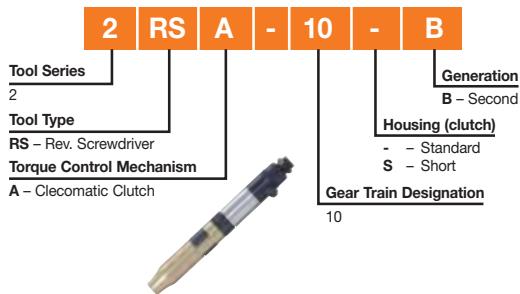
Part Number	Capacity		Net Weight	Min. Distance Hook to Hook	Length of Working Cable
	Max.	Min.			
200427	2 lbs.	0 lbs.	1.25 lbs.	10.8 in.	5.0 ft.
200428	4 lbs.	2 lbs.	1.25 lbs.	10.8 in.	5.0 ft.
200429	5 lbs.	3 lbs.	1.25 lbs.	10.8 in.	5.0 ft.
PL-12A	12 lbs.	1 lbs.	—	6.8 in.	4.6 ft.
BL-2A	2 lbs.	1 lbs.	1.1 lbs.	10.4 in.	5.2 ft.
BL-4A	4 lbs.	2 lbs.	1.1 lbs.	10.4 in.	5.2 ft.



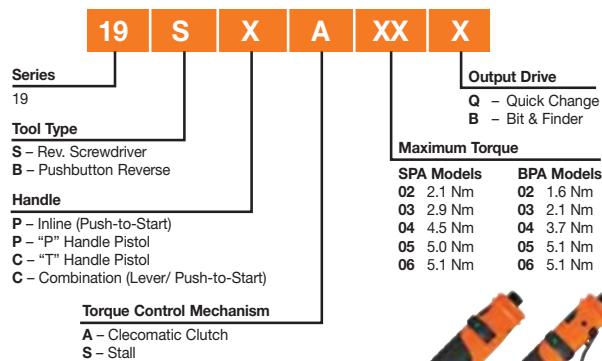
Screwdrivers

Model Number Nomenclature

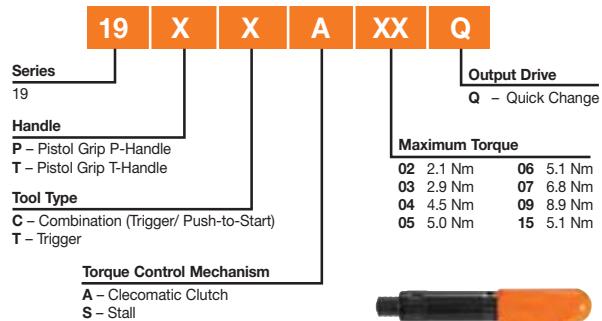
Cleco 2 Series

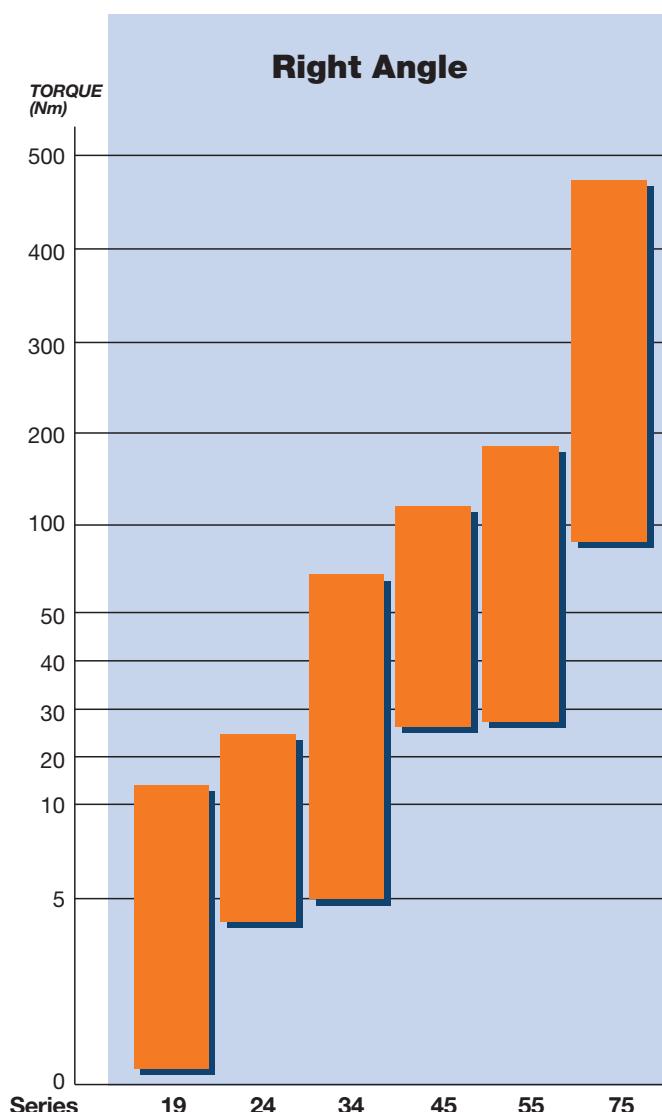


Cleco 19 Series Inline



Cleco 19 Series Pistol





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Selecting Your Cleco Nutrunner

Cleco offers over 500 nutrunners, most of which can be equipped with a wide variety of drive options. This generates over 3,000 different nutrunner combinations, allowing the exact tool with precise features to be chosen for specific job applications.

The following items should be considered before selecting the tool: ergonomic factors associated with the man/tool/task relationship, torque and speed requirements, tool and fastener accessibility, fastener joint variations, operator skill level and air supply.

Tool performance can be affected by air supply. Plant air line pressure to the tool will vary widely due to several factors: distance of tool from compressor; size of transmission lines, air drops, manifolds, hose length and diameter, and fittings. All power tool specifications are based on the tool receiving air at 90 p.s.i.g. (6.2 bar) with adequate air flow volume while the tool is in operation.

Clean Operation

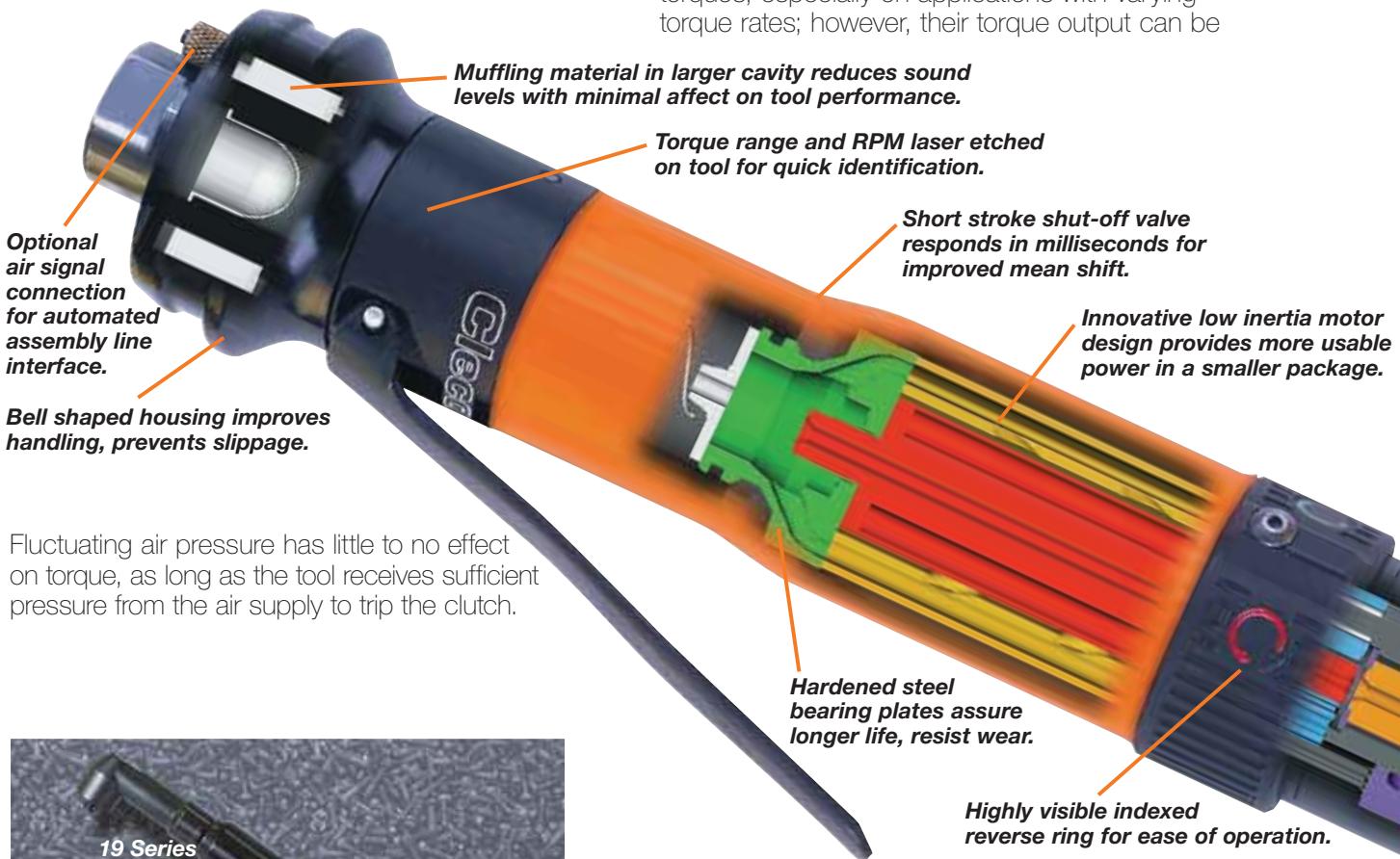
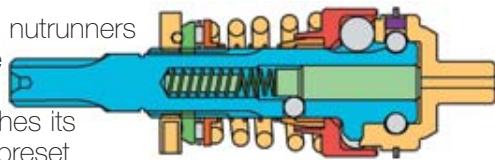
Many Cleco angle nutrunners are equipped with oilless blades. This is a very important feature where a clean assembly operation is critical.



Angle Nutrunners

Clecomatic Nutrunners

Clecomatic nutrunners shut off the instant the clutch reaches its adjustable preset torque. This action provides an accurate method of controlling torque without sacrificing tool speed.



Stall Nutrunners

Stall-type nutrunners consist of an air motor connected to the output spindle by planetary gearing and angle heads. In operation, the tool runs down the fastener until the torque resistance in the fastener causes the tool to stall. When the tool stalls, the throttle is released by the operator and the tool is removed. Stall-type tools can produce accurate torques, especially on applications with varying torque rates; however, their torque output can be

easily influenced by the operator and by fluctuations in the air line pressure. Operators should be instructed to allow the tool to stall before releasing the throttle and to avoid pulling or wrenching the tool after it stalls.

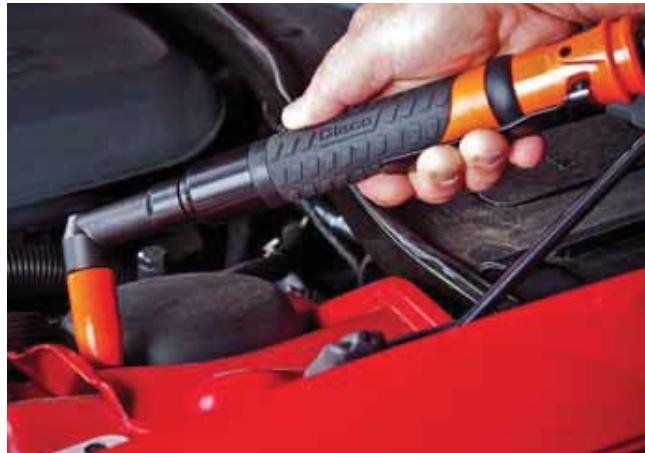
The Cleco Right Angle Solution

The Cleco 19, 24 and 34 series pneumatic nutrunners are the most recent additions to our line of smaller, lighter and faster tools. These powerful right angle clutch tools cover a wide torque range from .5 to 68 NM. We continue to drive our line into the best power to weight ratio of any other tool in the market, in a relentless effort to offer the most performance, the highest level of accuracy and the greatest flexibility in its class of pneumatic tools.

We also design our tools to offer you reduced energy costs, longer operating life, fewer replacement parts and lower service costs.

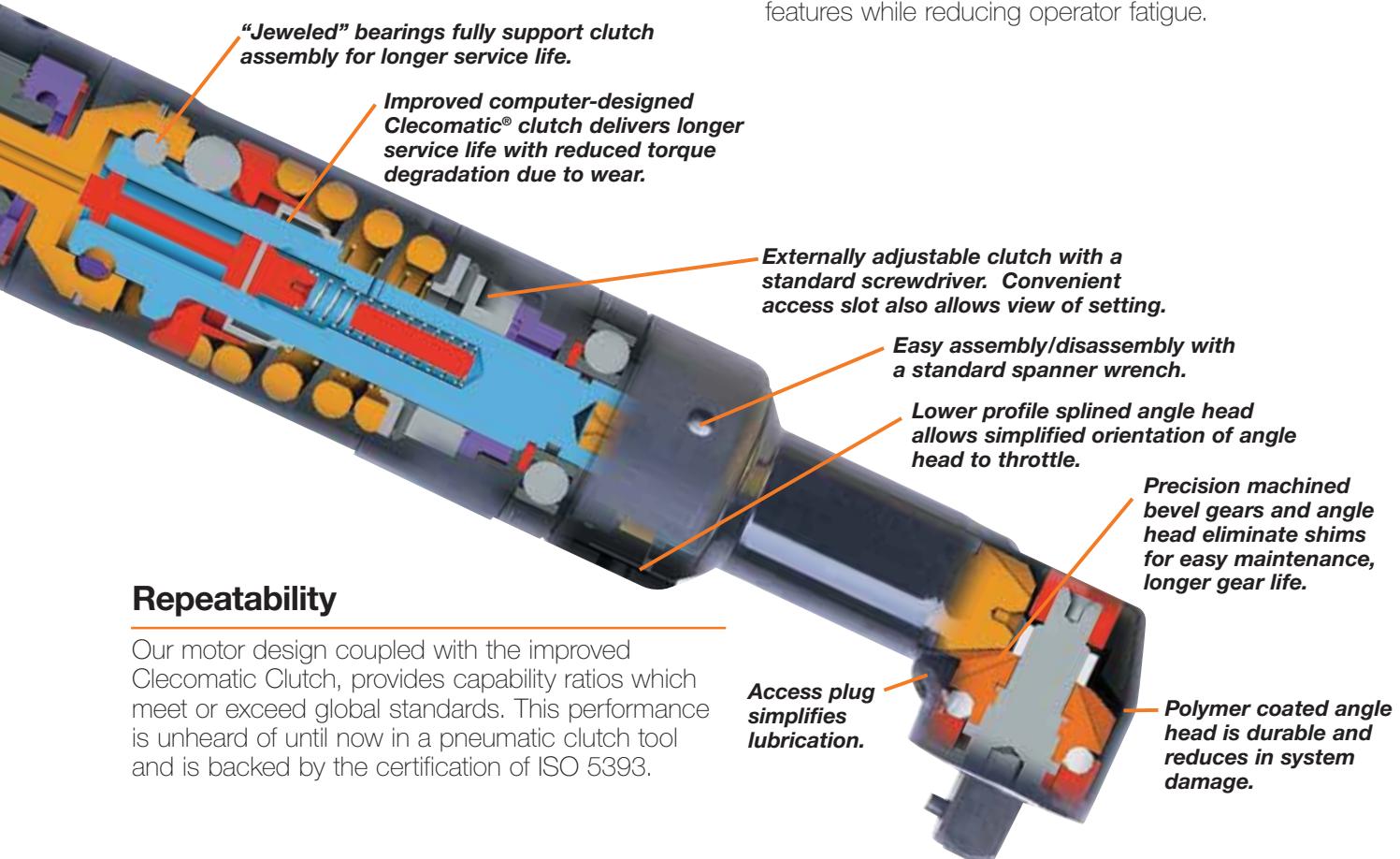
Performance

The Cleco 19, 24 and 34 series right angle nutrunners incorporate an innovative motor design that provides more usable power in a smaller package. This design contributes greatly to our smaller, lighter, faster goals and provides the highest power to weight ratio in its class to date.



Flexibility

Cleco nutrunners come with an externally adjusted and indicated clutch and offer improved ergonomics with a very comfortable handle area. The polymer coated angle heads on the 24 and 34 series reduce in-system damage. These durable heads are splined to allow indexing for better position. The operator will appreciate a quieter tool thanks to the composite exhaust deflector which also allows the exhaust to be efficiently piped away for even further reduced noise levels. These noted improvements are geared towards enhancing the tools positive operational features while reducing operator fatigue.



Repeatability

Our motor design coupled with the improved Clecomatic Clutch, provides capability ratios which meet or exceed global standards. This performance is unheard of until now in a pneumatic clutch tool and is backed by the certification of ISO 5393.

Angle Nutrunners

19, 24 & 34 Series Clecomatic Clutch



19 Series

Torque Range:

0.5 – 11 Nm 4.0 – 100 In. Lbs.

- Class-leading accuracy and repeatability
- External torque adjustment
- Sliding knob reverse
- 1/4" & 3/8" square drive

24 Series

Torque Range:

4.0 – 23 Nm 3.0 – 17 Ft. Lbs.

- External torque adjustment
- 3/8" square drive
- Indexable anglehead
- One torque spring to meet specified torque
- Oilless blades 🔥

34 Series

Torque Range:

8.0 – 75 Nm 4.0 – 55 Ft. Lbs.

- External torque adjustment
- 3/8" and 1/2" square drive
- Indexable anglehead
- One torque spring to meet specified torque
- Oilless blades 🔥



Model Number Example

24 | R | A | A | 23 | A | M | 3

Series
19
24
34

Rotation
R-Reversible

Tool Style
A – Right Angle

Torque Control
A – Clecomatic
S – Stall

Maximum Torque Nm

(Rounded to the nearest Nm)

Square Drive
2 – 1/4" (AL only)
3 – 3/8"
4 – 1/2" (AZ only)

Angle Head Size
L – Light Duty
M – Medium Duty
H – Heavy Duty
X – Extra Heavy Duty
Z – Super Heavy Duty

Tool Termination
A Angle head

Angle Nutrunners

45, 55 & 75 Series Cleomatic Clutch



45 Series

Torque Range:

28 – 115 Nm 21 – 85 Ft. Lbs.

- Button start
- Reversible & non-reversible
- External torque adjustment
- 1/2" square drive



55 Series

Torque Range:

32 – 176 Nm 24 – 130 Ft. Lbs.

- Lever start
- Reversible & non-reversible
- External torque adjustment
- Rotating exhaust deflector
- 1/2" square drive



75 Series

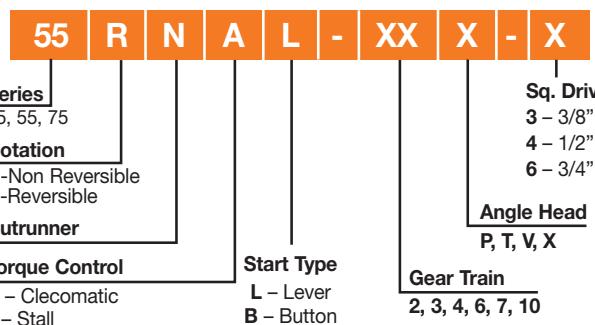
Torque Range:

95 – 430 Nm 70 – 320 Ft. Lbs.

- Lever start
- Reversible & non-reversible
- External torque adjustment
- Rotating exhaust deflector
- 1/2" & 3/4" square drive



45, 55 & 75 Model Number Example



Angle Nutrunners

19, 24, 34, 45, 55 & 75 Series Stall – Reversible & Non-Reversible

Cleco®

19 Series Reversible

Torque Range:

3.2 – 6.2 Nm 2.3 – 4.6 Ft. Lbs.

- Lever start
- Sliding knob reverse

24 Series Reversible

Torque Range:

13 Nm 9.6 Ft. Lbs.

- Lever start
- Twist ring reverse

34 Series Reversible

Torque Range:

11 - 36 Nm 8.1 - 26 Ft. Lbs.

- Lever start
- Twist ring reverse

45 Series Reversible

Torque Range:

62 - 125 Nm 46 - 92 Ft. Lbs.

- Button start
- Twist ring reverse

55 Series Reversible & Non-Reversible

Torque Range:

56 - 203 Nm 41 - 150 Ft. Lbs.

- Lever start
- Reversible & non-reversible

75 Series Reversible & Non-Reversible

Torque Range:

210 - 475 Nm 155 - 350 Ft. Lbs.

- Lever start
- Reversible & non-reversible

NEW!



Swingbar Nutrunners

Cleco®

Smaller, Faster, Lighter

For high torque applications where a small tool is necessary, for consistency in clamp load across joint types or for simply eliminating the maintenance needs of an angle tool, the Cleco 64 Series provides the best solution for today's heavy assembly environment.

Benefits of a Swingbar Tool

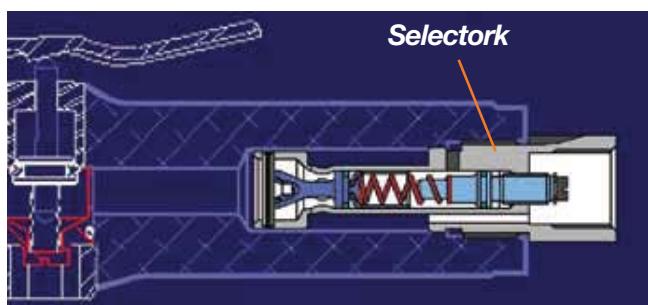
A swingbar tool includes a reaction bar that freely swings 360°. This allows the reaction bar to be moved to an appropriate bracing point without any disassembly or repositioning of a spline. Once positioned, the reaction bar absorbs the reaction forces of the tool.

Selectork

Output torque from a stall tool is achieved by adjusting the air pressure to the tool. If the tool is

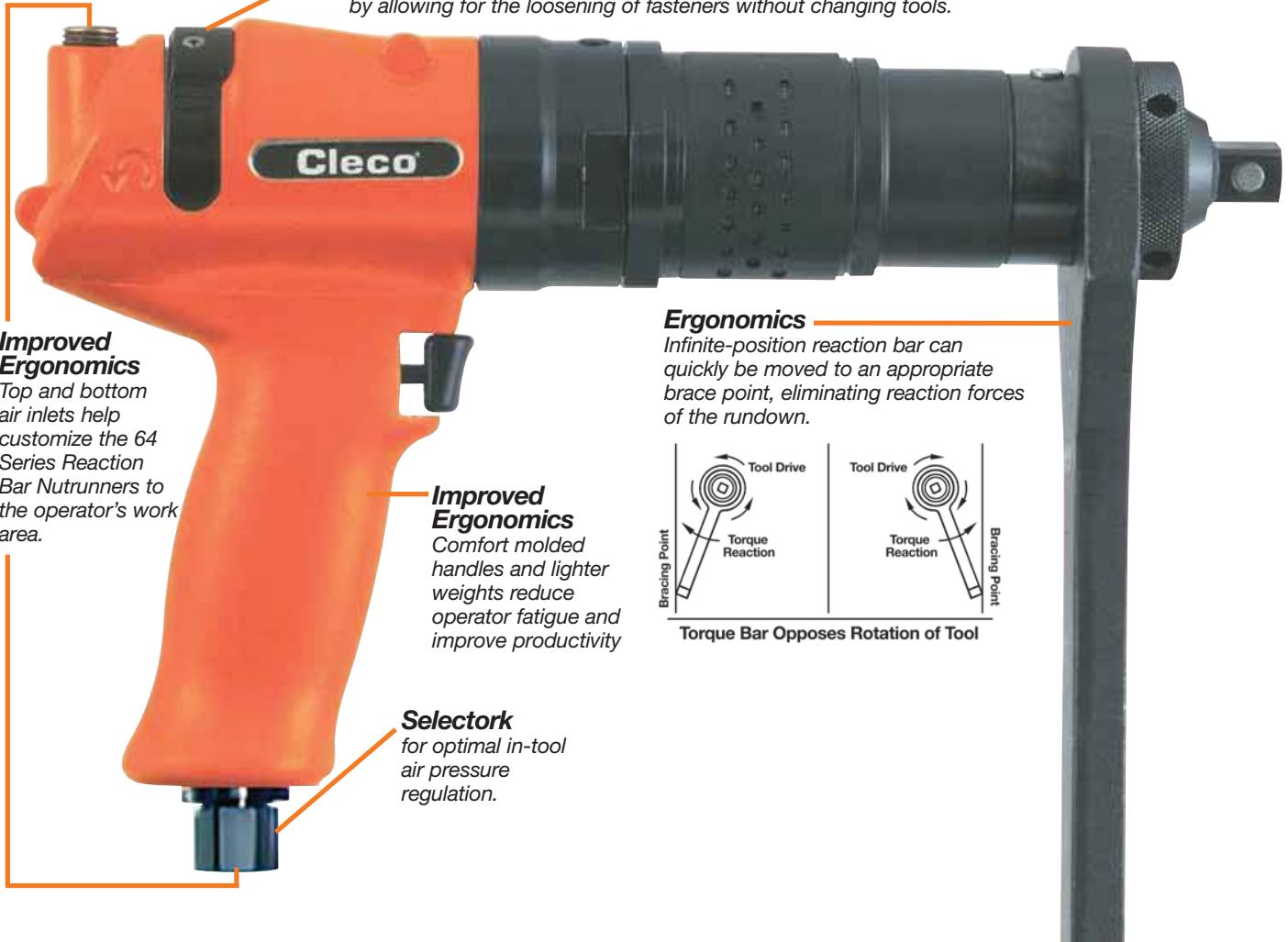
moved from location to location or if other tools requiring full line pressure use the same air line, the tool will require a dedicated air pressure regulator.

The Cleco Selectork feature in the 64 Series tools is a small pressure regulator that takes the place of the standard air inlet bushing and eliminates the need to have a separate pressure regulator installed in the plant floor system. Because of the small size of the Selectork there is a limited pressure adjustment range of from 60 to 90 psi. To order this option on the Cleco 64TTS Swingbar tools replace the "S" in the model number with a "K" (64TTS....to a 64TK....).



Reversible

A simple to use and convenient slide reverse lever improves productivity by allowing for the loosening of fasteners without changing tools.





Speed and Torque Tests for the Cleco 64 Series Swingbar Nutrunners

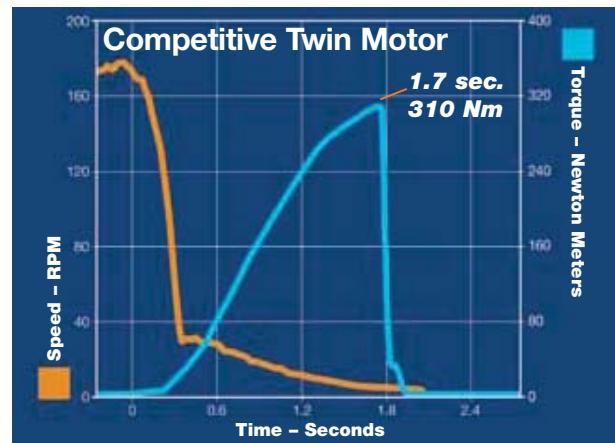
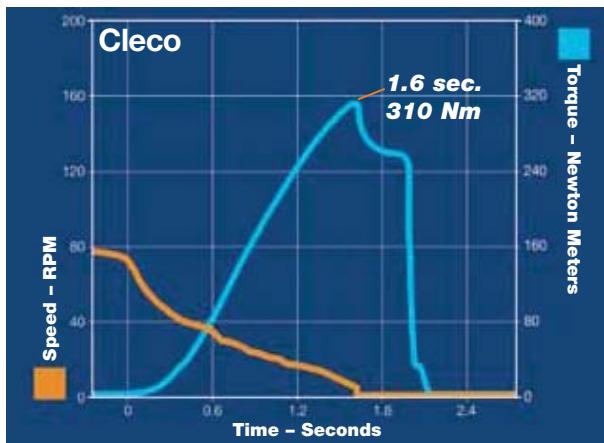
The goal of any fastening application is to maintain a high degree of accuracy while minimizing the length of time required to perform the rundown. The Cleco 64 Series Swingbar Nutrunners utilize a single powerful motor that limits speed shifts and offers a fast and accurate rundown regardless of joint type.

Competitive units with high RPM's quickly drop their speed at threshold resulting in an overall longer rundown period. This gap is multiplied when prevailing torque is present.

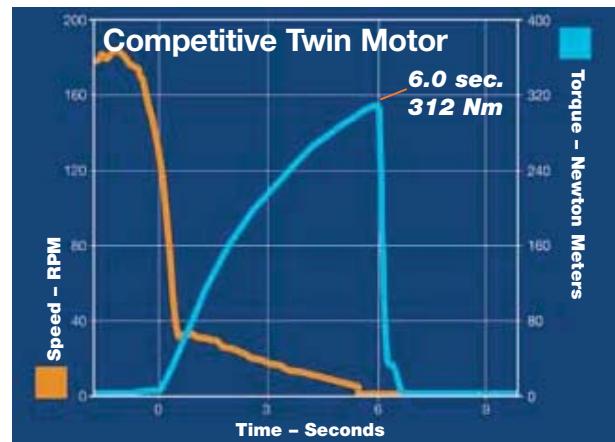
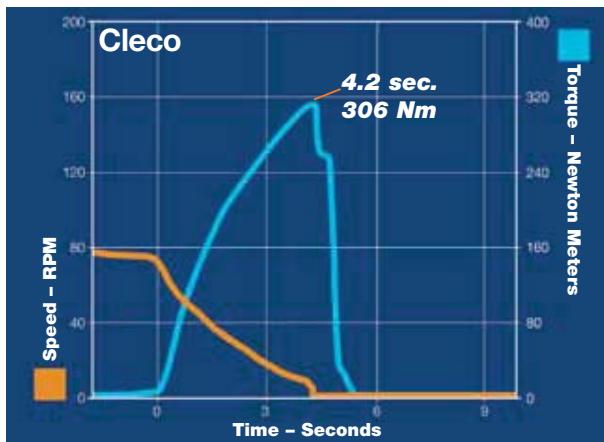
To read the graphs below, the orange line represents the tool speed while the blue line represents the torque generated throughout a rundown. Notice the correlation between speed and torque and its overall effect on rundown time.

The swingbar can instantly be positioned to absorb the torque reaction of the tool while maintaining a comfortable position with the trigger hand.

Random Comparison on 120° Joint



Random Comparison on 720° Joint



Again the free speed of the Cleco tool is slower, however with its faster tightening speed the overall time is almost 2 seconds faster.

Reaction Bar & Swingbar Nutrunners

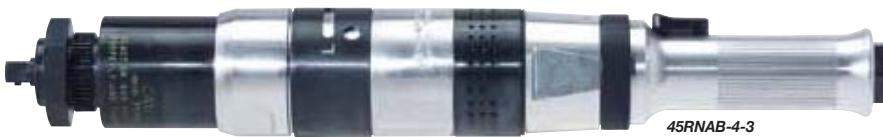


45 Series Inline

Torque Range:

14 - 62 Nm 10 - 46 Ft. Lbs.

- Button start
- Twist ring reverse



45RNAB-4-3

55 Series Inline

Torque Range:

27 - 91 Nm 20 - 67 Ft. Lbs.

- Lever start
- Twist ring reverse



55RNAL-4-4

64 Series Pistol

Torque Range:

34 - 3850 Nm 25 - 2837 Ft. Lbs.

- Trigger start
- Sliding knob reverse
- Swingbar

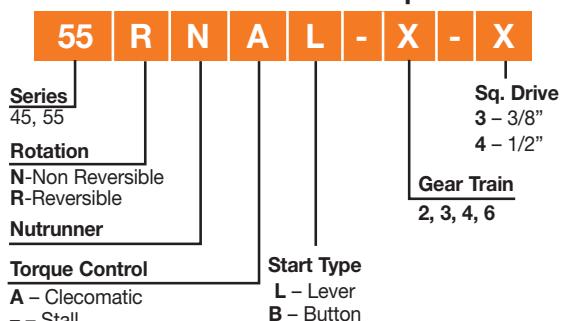


64TTS640D8

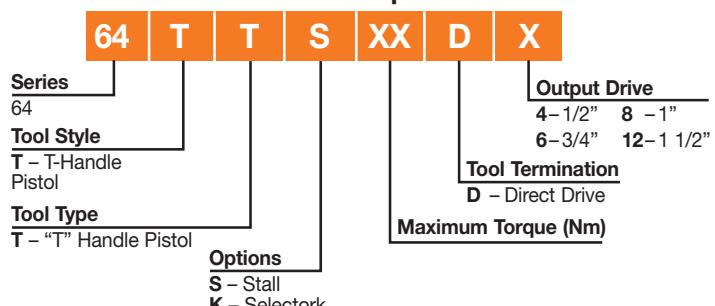


Selectork 64TTK34D4

45 & 55 Model Number Example



64 Model Number Example



Flush Socket Nutrunners

Clecomatic Clutch & StallStall

Cleco®

34 Series

Torque Range:
5 – 103 Nm 4 – 76 Ft. Lbs

- External torque adjustment (Clecomatic models)
- Indexable anglehead
- One torque spring to meet specified range
- Oilless blades
- Reversible



X Dimension For Flush Socket

Head	Inches	Millimeters	Socket Size Range
F1	1.54	39	8–15mm
F2	1.69	43	10–15mm
F3	2.32	59	13–21mm

NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number	Free Speed	Torque		Length		Weight		Anglehead				Air Consumption		
		RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm	Air Inlet NPT	Min. Hose I.D.
Clecomatic - Lever Start - Reversible														
34RAA09F1	1825	4-7	5-9	17.0	432	3.7	1.7	1.54	39	0.55	14	3/8"	5/16"	34
34RAA16F1	1055	7-12	9-16	17.0	432	3.7	1.7	1.54	39	0.55	14	3/8"	5/16"	34
34RAA28F1	645	10-20*	14-28*	17.8	452	3.9	1.8	1.54	39	0.55	14	3/8"	5/16"	34
34RAA33F2	540	12-24	17-33	18.8	478	4.7	2.1	1.69	43	0.67	17	3/8"	5/16"	34
34RAA47F2	380	17-35	24-47	19.0	483	5.1	2.3	1.69	43	0.67	17	3/8"	5/16"	34
34RAA53F2	265	17-39	24-53	19.0	483	5.1	2.3	1.69	43	0.67	17	3/8"	5/16"	34
34RAA67F3	265	24-49	33-67	20.5	521	5.8	2.6	2.32	59	0.87	22	3/8"	5/16"	34
34RAA94F3	185	35-69	47-94	20.5	521	5.8	2.6	2.32	59	0.87	22	3/8"	5/16"	34
Stall - Lever Start - Reversible														
34RAS10F1	1825	7	10	17.0	432	3.4	1.5	1.54	39	0.55	14	3/8"	5/16"	34
34RAS18F1	1055	13	18	17.0	432	3.4	1.5	1.54	39	0.55	14	3/8"	5/16"	34
34RAS30F1	645	22*	30*	17.8	452	3.5	1.6	1.54	39	0.55	14	3/8"	5/16"	34
34RAS40F2	480	29	40	19.0	483	4.4	2.0	1.69	43	0.67	17	3/8"	5/16"	34
34RAS52F2	380	38	52	19.0	483	4.4	2.0	1.69	43	0.67	17	3/8"	5/16"	34
34RAS58F3	335	43	58	20.5	521	5.5	2.5	2.32	59	0.87	22	3/8"	5/16"	34
34RAS73F3	265	54	73	20.5	521	5.5	2.5	2.32	59	0.87	22	3/8"	5/16"	34
34RAS103F3	185	76	103	20.5	521	5.5	2.5	2.32	59	0.87	22	3/8"	5/16"	34

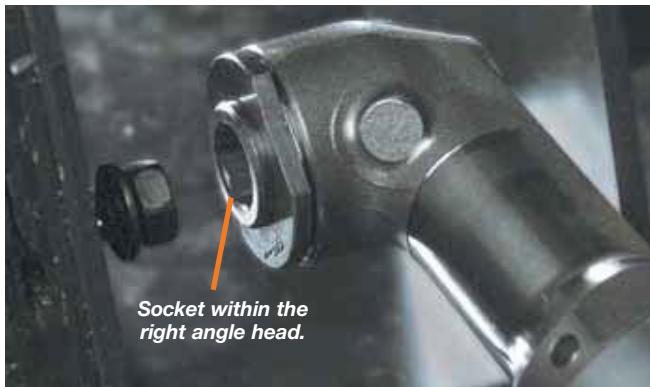
* Maximum torque of tool exceeds the maximum torque rating for the head, high maintenance should be expected when operated at the upper torque capacity range.

General:

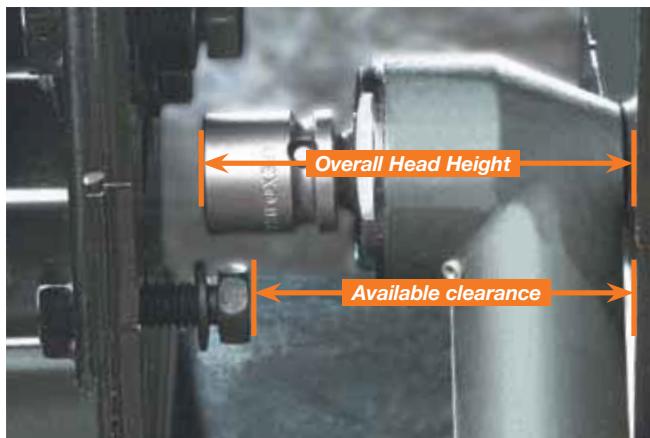
Tool performance rated at 90 psi (620kPa) air pressure.

Standard Equipment:
 Operating instructions & service manual
 Suspension bail
 Exhaust Overhose
 Clutch adjustment tool (Clecomatic tools)
 Mounting plate (F3 tools)

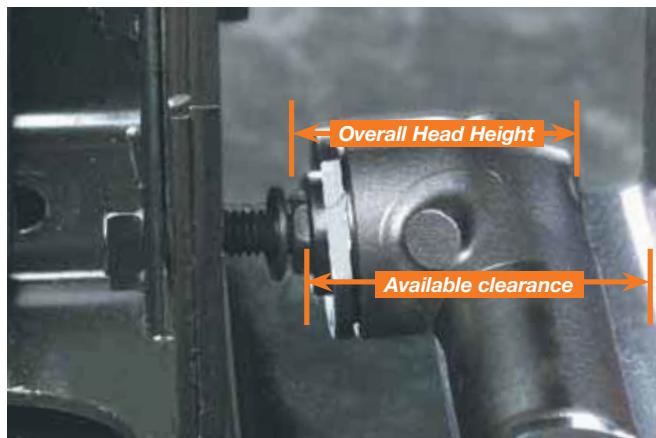
Optional Equipment:
 Assembly wrench: 201898
 Torque signal kit: 301937PT
 Non-reversible kit: 204999
 Mounting plates: F1 tools 57217101 57218103
 F2 tools 43287131
 Additional accessories: Page 36



Tight clearance applications, once only accessible by the use of hand tools or crowfoot attachments, can now be tightened by the family of Cleco Flush Socket Pneumatic Tools at a speed that maximizes productivity. Tools equipped with a Clecomatic clutch assure good torque repeatability.



Standard right angle head with square drive and separate socket will not fit on tight clearance applications. The overall head height is greater than the available clearance.



Flush socket tools have plenty of clearance to fit on the same application. Clecomatic flush socket tools tighten with much higher accuracy than tools with crowfoot attachment. The overall head height is less than the available clearance.

Model Number Example

Base Tool

34	R	A	A	16	F1				
Motor	Reversible								
	Tool Style								
	A – Angle								
Control									
A – Clutch									
S – Stall									
Maximum Torque Output									
F1 Clutch: 9, 16, 28 Nm									
Stall: 10, 18, 30 Nm									
F2 Clutch: 33, 47, 53 Nm									
Stall: 40, 52 Nm									
F3 Clutch: 67, 94 Nm									
Stall: 58, 73, 103 Nm									
Flush Socket Head									
F1 Head: 8-15 mm socket capacity									
F2 Head: 10-15 mm socket capacity									
F3 Head: 13-21 mm socket capacity									

Socket No. (ordered with base tool)

FS	1	MG	0	0			
					Output Type		
					1 – Thru Hex	2 – Magnetic	
					Extension Length		
					0 – Flush	2 – 1/4"	4 – 1/2"
							6 – 3/4"
					Socket Sizes		
					EC – 3/8"	MA – 7mm	
					ED – 7/16"	MB – 8mm	
					EE – 1/2"	MC – 9mm	
					EF – 9/16"	MD – 10mm	
						ME – 11mm	
						MF – 12mm	
						MG – 13mm	
						MH – 14mm	
						MI – 15mm	
						MM – 19mm	
					Socket Type		
					FS – Flush		

Note: When ordering, specify the base tool and order the socket separately. The socket will be installed in the tool before shipment.

Crowfoot Nutrunners

Clecomatic Clutch & Stall



34 Series

Torque Range:
14 – 30 Nm 10 – 22 Ft. Lbs

- External torque adjustment
(Clecomatic models)
- Indexable anglehead
- One torque spring to meet specified range
- Oilless blades
- Reversible



NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number		Free Speed	Torque Range		Socket Size		Length		Weight		Air Consumption		
15 Degree Head	30 Degree Head	RPM	ft.-lbs.	Nm	in.	mm	in.	mm	lbs.	kg	NPT	I.D.	SCFM
34RCA30D1	34RCA30D3	425	11-22	15-30	5/16	8	20.0	507	4.7	2.2	3/8"	5/16"	34

Clecomatic - Lever Start - Reversible

34RCA30D1	34RCA30D3	425	11-22	15-30	5/16	8	20.0	507	4.7	2.2	3/8"	5/16"	34
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Stall - Lever Start - Reversible

34RCS29D1	34RCS29D3	490	21	29	5/16	8	19.6	497	4.5	2.1	3/8"	5/16"	34
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General:

Tool performance rated at 90 psi (620kPa) air pressure.

Standard Equipment:

Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool (Clecomatic tools)

Extra Equipment:

Specify socket from page 31

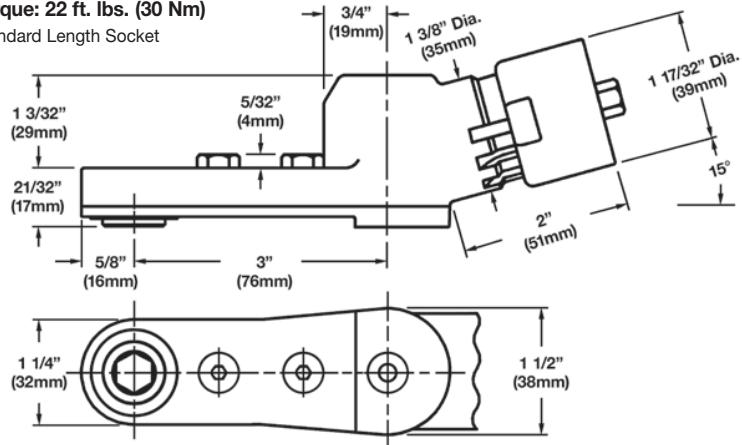
Optional Equipment:

Assembly wrench: 201898
Torque signal kit: 301937PT
Non-reversible kit: 204999

Additional accessories: Page 36

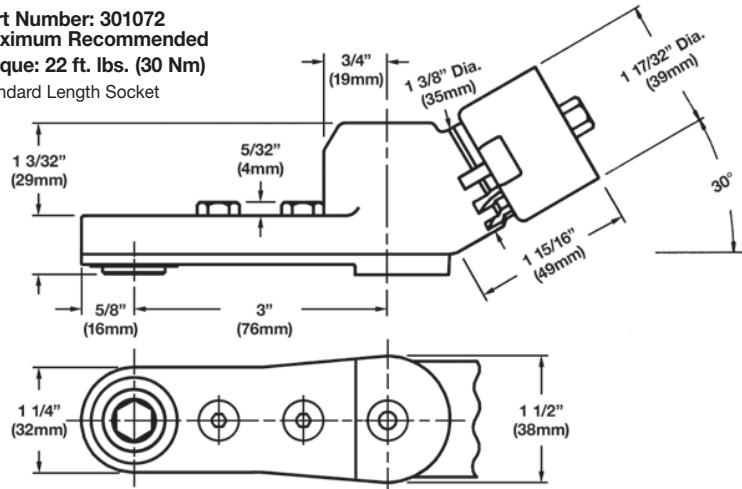
15° Head

Part Number: 301071
Maximum Recommended
Torque: 22 ft. lbs. (30 Nm)
 Standard Length Socket



30° Head

Part Number: 301072
Maximum Recommended
Torque: 22 ft. lbs. (30 Nm)
 Standard Length Socket



Model Number Example

Base Tool						Socket No. (ordered with base tool)			
34 R C A 30 D1						CS XX X X			
Motor 34						Crowfoot Socket	Output Type		
Rotation R – Reversible							1 – Thru Hex		
Tool Style C – Crowfoot							Extension Length		
Control							0 – Flush	4 – 1/2"	6 – 3/4"
A – Clecomatic						Sockets			
S – Stall						Flush	1/2" Extended	3/4" Extended	
Max Output Torque						EA – 1/4" MD – 10mm	EB – 5/16" EE – 1/2"	EC – 3/8" MG – 13mm	
Clecomatic: 30						ED – 7/16" MF – 12mm	ED – 7/16" MH – 14mm	MF – 12mm	
Stall: 14, 29						EE – 1/2" EE – 1/2"	EE – 1/2" EE – 1/2"	MI – 15mm	
Tool Termination						EF – 9/16" MB – 8mm	EF – 9/16" MB – 8mm	MG – 13mm	
D1 15° Head						EH – 11/16"	EH – 11/16"		
D3 30° Head									

Hold & Drive Nutrunners

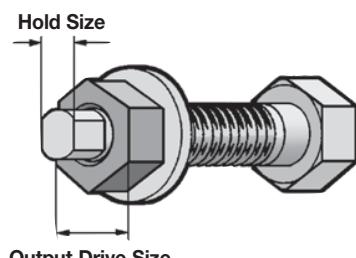
Clecomatic Clutch & Stall



34 Series

Torque Range:
24 – 103 Nm 17 – 76 Ft. Lbs

- External torque adjustment
(Clecomatic models)
- Indexable anglehead
- One torque spring to meet specified range
- 1" retraction of hold spindle
- Oilless blades
- Reversible



NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number	Hold Size	Free Speed	Torque		Length		Weight		Anglehead		Air Consumption		
			RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm

Clecomatic - Lever Start - Reversible

34RAA53H3	5mm Female Hex	335	17-39	24-53	20.7	526	8.0	3.5	2.4	61	1.06	27	3/8"	5/16"	34
34RAA67H3	7mm Female Hex	265	24-49	33-67	20.7	526	8.0	3.5	2.4	61	1.06	27	3/8"	5/16"	34
34RAA94H3	8mm Female Hex	185	35-69	47-94	20.7	526	8.0	3.5	2.4	61	1.06	27	3/8"	5/16"	34

Stall - Lever Start - Reversible

34RAS58H3	5mm Female Hex	335	43	58	20.7	526	7.7	3.5	2.4	61	1.06	27	3/8"	5/16"	34
34RAS73H3	T30 Torx	265	54	73	20.7	526	7.7	3.5	2.4	61	1.06	27	3/8"	5/16"	34
34RAS103H3	10mm Female Hex	185	76	103	20.7	526	7.7	3.5	2.4	61	1.06	27	3/8"	5/16"	34

General:

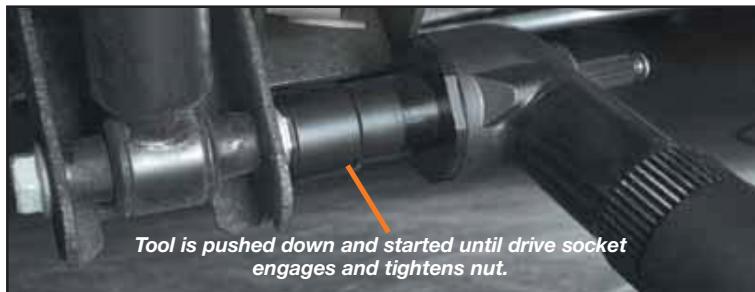
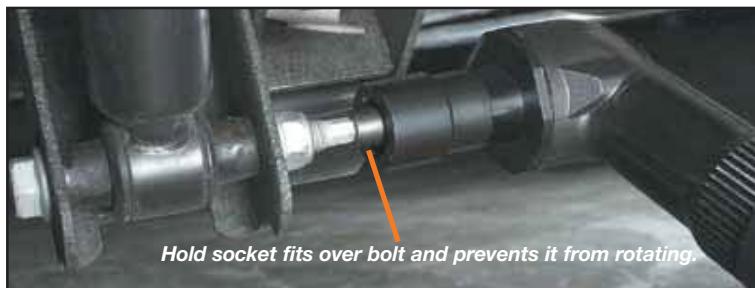
Tool performance rated at 90 psi (620kPa) air pressure.

Standard Equipment:

Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool (Clecomatic tools)
Mounting Plate

Optional Equipment:

Assembly wrench: 201898
Torque signal kit: 301937PT
Non-reversible kit: 204999
Additional accessories: Page 36



"Hold & Drive" bolts are used with these tools in automotive and truck frame applications. They reduce assembly handling to one person working from one side of the workpiece. The bolt is held stationary by the tool while the nut is tightened from the same side.

Model Number Example

Base Tool							Drive Socket		Hold Socket		
34	R	A	A	53	H	H3	ML	O	M6	B	
Motor	Reversible										
Control		Tool Style									
A – Clutch		A – Angle									
S – Stall											
Maximum Torque Output											
Clutch: 53, 67, 94 Nm											
Stall: 58, 73, 103 Nm											
Tool Termination											
H – Hold & Drive											
Retainer Shaft Length							Hold Socket Style				
3 – 3 1/2"							F – Female Hex	T – Torx			
4 – 4"							M – Male Hex	O – Female oval			
5 – 5 3/8"											
6 – 5 7/8"											
9 – 9"											
Drive Socket Size							EE – 1/2"	EK – 7/8"	EQ – 1 1/4"	ML – 18mm	MR – 24mm
							EF – 9/16"	EL – 15/16"	MG – 13mm	MM – 19mm	MS – 25mm
							EG – 5/8"	EM – 1"	MH – 14mm	MN – 20mm	MT – 26mm
							EH – 11/16"	EN – 1 1/16"	MI – 15mm	MO – 21mm	MU – 27mm
							EI – 3/4"	EO – 1 1/8"	MJ – 16mm	MP – 22mm	XX – Special
							EJ – 13/16"	EP – 1 3/16"	MK – 17mm	MQ – 23mm	

Note: When ordering, specify the base tool and order the socket separately. The socket will be installed in the tool before shipment.

Tube Nut Wrenches

Cleomatic Clutch



24 Series

Torque Range:

14 - 40 Nm
19 - 54 Ft. Lbs

- One hand, two position throttle
- External torque adjustment
- Auto alignment socket

24 Series (T2)



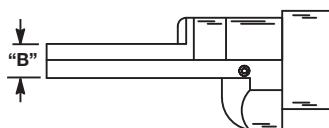
24 Series (T3)

24 Series (T4)

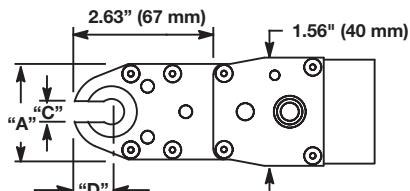
24 Series Power Unit
With Auto Alignment

Termination

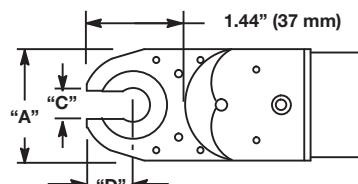
T2, T3 & T4 Head Height



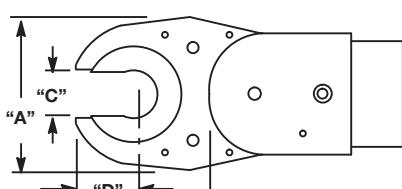
T2 Head



T3 Head



T4 Head



NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number	Free Speed	Torque Range		Weight	Length	Socket Size	"A"	"B"	"C"*	"D"		
		Ft. Lbs.	Nm									
		RPM	Min - Max	Min - Max	lbs.	kg	in.	mm	in.	mm	in.	mm

Power Unit Only

24RTA12	670	3.6 - 8.9	5 - 12	2.7	1.2	12	305	NA	NA	NA	NA	NA	NA
---------	-----	-----------	--------	-----	-----	----	-----	----	----	----	----	----	----

Self Aligning

24RTA20T2	240	10.4 - 14.7	14 - 20	4.3	2.0	16.8	426	7/16	—	1.42	36	0.55	14	0.28	7.0	0.53	13.5
24RTA30T3	175	14.7 - 22.1	20 - 30	4.5	2.0	16.7	426	9/16	—	1.65	42	0.59	15	0.47	11.9	0.73	18.5
24RTA40T4	130	19.2 - 29.5	26 - 40	5.1	2.3	17.7	449	7/8	—	2.36	60	0.59	15	0.67	17.0	0.93	23.5

* Varies by socket dimension.

General:

Air Inlet: 1/4" NPT

Tool performance rated at 90 psi (620kPa) air pressure.

Extra Equipment:

Specify socket from page 35

Optional Equipment:

Torque signal kit: 301937PT (see page 39)



Auto Alignment Head

Tube and hose applications, once only accessible by the use of hand tools, can now be tightened by the Cleco family of Tube Nut Wrenches at a speed that maximizes productivity.

Torque repeatability is assured by the proven Clecomatic clutch and low inertia motor. These models use a single lever for the tightening of the fastener and the return of the socket to the open position. The flexibility coupled with the proven capabilities greatly increases the productivity rate of the assembly line.



Make sure that the socket is set to the open position. If not, push the throttle lever down half way to release the socket back to the open position.



Slide the tool on the fastener and push the throttle lever down fully to run the fastener down.



To free the tool, slide the tool off the tightened fastener and operate the throttle lever halfway to release the socket back to the open position.

Model Number Example

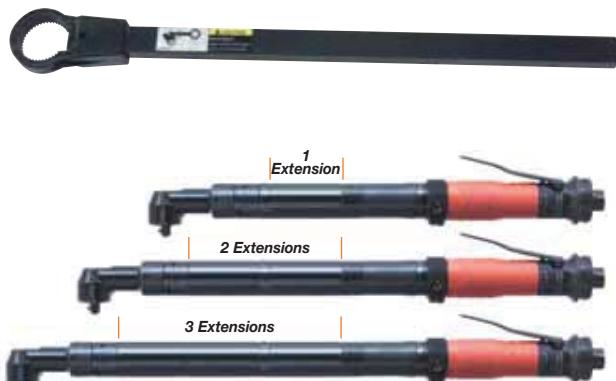
Base Tool						Socket (Order Separately)				
24 R T A 20 T2						KS2	ED	0	0	
Motor 24						Head Type KS2 - T2				
Tool Style R - Reversing mechanism for socket orientation						KS3 - T3				
Tool Type T - Tube Nut						KS4 - T4				
Torque Control A - Clecomatic Clutch										
Max Torque (Nm) T2 - 20 Nm T3 - 30 Nm T4 - 40 Nm										
Head Size T2 - 20 Nm Max. T3 - 30 Nm Max. T4 - 40 Nm Max.										
						Output Type 0 Partial Thru Hex 1 Thru Hex	2 Double Thru Hex 3 Partial Thru Double Hex			
						Extension Length 0 Flush 2 1/4"	4 1/2" 6 3/4"			
						Maximum Hex Socket Sizes				
						MG, 1/2" MM, 3/4" MU, 1 1/16" OO, ## (specials)	T2 Head Type T3 Head Type T4 Head Type T3 Head Type			
						EA - 1/4" EC - 3/8" ED - 7/16" EE - 1/2" EF - 9/16" EH - 11/16" EJ - 13/16" EK - 7/8" EL - 15/16" EM - 1" EO - 1 1/8"	M5 - 5mm M6 - 6mm MA - 7mm MB - 8mm MD - 10mm ME - 11mm MF - 12mm MG - 13mm MH - 14mm MI - 15mm MJ - 16mm (5/8")	MK - 17mm ML - 18mm MM - 19mm MN - 20mm MO - 21mm MP - 22mm MQ - 23mm MR - 24mm MS - 25mm MT - 26mm MU - 27mm (1 1/16")		

Note: When ordering, specify the base tool and order the socket separately. The socket will be installed in the tool before shipment.

Nutrunner Accessories

Torque Reaction Bars & Slave Square Drives

Part No.	Description	Used On
869770	Steel Bar	45, 55 series inline
48047128	Steel Bar	64...D4 series
46037081	Slave Square Drive	64...D4 series
46177030	Slave Square Drive	64...D6 series
46607058	Slave Square Drive	64...D8 series



Extension Kit (3.5")

Part No.	Used On
301081	34 series (37 Nm or higher)
301108	24/34 series (36 Nm or lower)

Anglehead Covers

Part No.	Used On	
	Tool Series	Anglehead
205831	24/34	AH, AM
205833	24/34	AX
205834	24/34	AZ
205837	19	AH
205839	45/55	T
205835	45/55	P
205838	75	V



Joint Simulator

550006

Suspension Bail

Part No.	Used On
867711	8, 35, 45, 55 series
204987	24, 34 wire bail



Swivel Suspension Bail

Part No.	Used On
541715-5	24, 34 series
54397004	64...D4 series
46437006	64...D6 series
46607016	64...D8 series
46037036	64...D12 series



Torque Signal Kit

Air signal to indicate clutch shut-off.

Part No.	Used On
201900	24/34 Clecomatic (old style)
301937PT	24/34 Clecomatic (new style)
301106	14 Clecomatic



Assembly Wrench

Part No.	Used On
201898	Two required



Description	Torque Range		Width		Height		Length		Part No.
	ft.-lbs.	Nm	in.	mm	in.	mm	in.	mm	
Joint Simulator	220-12	300-15	10.4	264	16	406	26	667	550006

Accessories

Cleco TVP-100 Series Torque Verifier

Cleco®

Cleco®

The TVP-100 Series Torque Verifier provides low-cost assembly assurance for pneumatic screwdrivers, nutrunners and pulse tools.

The Cleco TVP-100 verifier improves your assembly process by eliminating operator error caused by early trigger release, fastener cross-threading or re-hits.

The TVP-100 is designed for use with pneumatic clutch screwdrivers/nutrunners and Cleco shut-off pulse tools equipped with torque signal kits.

The TVP-100 provides visual and audio feedback

for both individual fastener and batch parameters, assuring that every fastener has been rundown to the capability of the tool.

Based on existing Cleco TME controller technology, the TVP-100 navigational screen allows for simple set-up and operation.

The TVP-100 works by reading the signature of a ported pneumatic assembly tool through its fastening cycle. Any deviation from the normal signature caused by re-hits, cross threads, early trigger release or a number of variables will elicit a **NOK** visual and audio signal from the verifier, notifying the operator of an error. Whereas a Cleco DC controller controls the tool and the fastening process, the TVP-100 is a cost-effective way of verifying torque by following the torque signature of a tool.



Accessories

Cleco TVP-100 Series Torque Verifier

Features

- Verifies fastener installation with **OK/NOK** audio and visual indicators
- On screen verification of individual fastener assembly status with batch count
- VGA screen displays graph for each rundown
- Stores 1,000 rundowns
- Sequencing capability
- 8 parameter sets available for multiple applications
- "Auto Cal" permits fast and easy tool set up for any joint type
- Password protected
- Multiple languages



TVP-100 Series Torque Verifiers

Model Number		Language	Weight		Width		Height		Depth	
115VAC*	230VAC*		lbs.	kg	in.	mm	in.	mm	in.	mm
TVP-110-15-U	TVP-110-30-U	English	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-D	TVP-110-30-D	German	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-S	TVP-110-30-S	Spanish	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-P	TVP-110-30-P	Portuguese	6	2.72	8.75	222	9.13	232	4.13	105

** 230V units are CE compliant.

All model numbers include power cable, air signal transducer, 25 foot cable to connect TVP to air signal transducer, and 8 foot air line to connect transducer to tool.
NOTE: Tool must be equipped with torque signal kit.

24 Volt Inputs/Outputs:

Inputs: Up to 8 Applications Outputs: Cycle Accept
Reset Batch Accept
Suspend Reject

Accessories

Cleco TVP-100 Series Torque Verifier

Cleco®

Accessories

Torque Signal Kits

Part No.	Tool Used On
301106	19SCA & 19RAA series
302021PT	19TTA & 19PTA series
201900	24RAA and 34RAA (old style)
301937PT	24RAA and 34RAA (new style)
934918	PTH series pulse tools ("C" & "D" vintage only)

Phoenix Connector

Part No.	Description
542892	24 Volt Input/Output Phoenix connector
939348	Strain relief for above connector

Cables

Part No.	Description
207237	115V Transducer and cable
207238	230V Transducer and cable

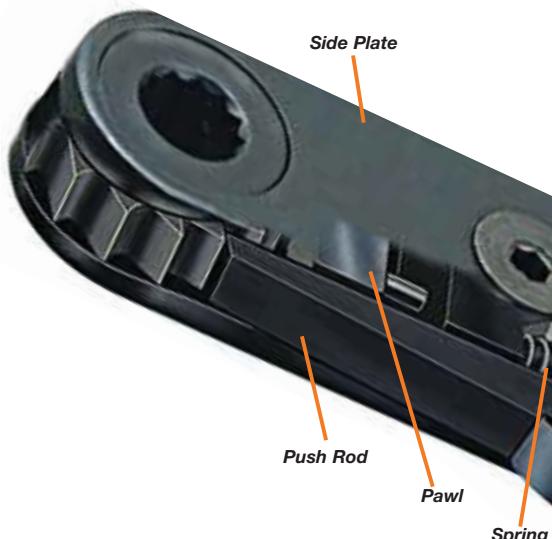
*115V and 230V transducer and cable assemblies have different connectors at the TVP end of the cable.



Ratchet Wrenches

Stall Type

Cleco Ratchet Wrenches. For Applications That Are “Impossible” To Get To.

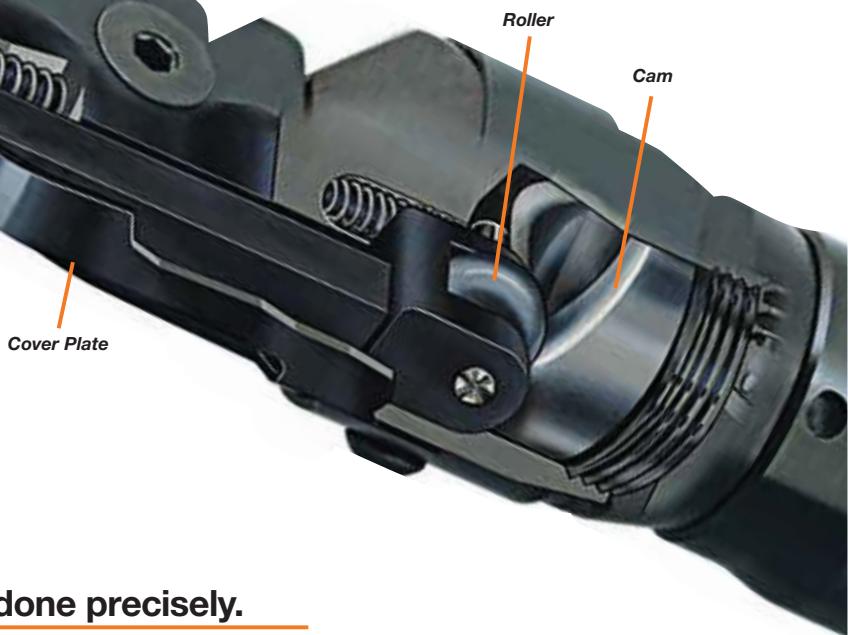


Full range of sockets.

Limited access applications come in all different shapes and sizes. A full offering of hex sockets, extended sockets and power socket adapters in both inch and millimeter sizes insure you will be able to get to a variety of applications which were previously impossible to reach.

Extensive variety of ratchet heads.

Miniature, bent left, bent right, extended, thin and extra thin ratchet heads are just some examples of the variety of heads available to ensure that you can gain access to the hardest to reach fasteners...even fasteners that can't be seen can be tightened with precision.



The correct torque to get the job done precisely.

Cleco 24 and 34 series ratchet wrenches are available in sizes up to 50 Ft.Lbs. Several sizes of side plate widths and thicknesses are available to provide a wide range of torques without sacrificing size or durability

Success in simplicity.

By using a single direction stall motor the Cleco 24 and 34 series ratchet wrenches eliminate components that traditionally add cost and decrease service life. With this tool you truly get what you pay for. A very economical and dependable solution for the hardest to reach fasteners. Need a reversible tool? No problem, simply flip the tool over.

Gears that have stood up to the test of time.

The key wear items in the ratchet head (gears, cams, and push rods) have remained unchanged from the previous H16 and H30 tools. Not only can you have confidence in their durability, you won't have the to buy new replacement parts.



Improved motor for better performance.

Innovative low inertia motor design provides more usable power in a smaller package size. The end result is a more ergonomic handle for a more productive tool. The same successful motor is used on Cleco flush socket, crowfoot, hold-and-drive and standard Clecomatic clutch shut-off nutrunners.

Ergonomic grip for operator comfort.

Rubber coated motor housing helps isolate the operator from temperature changes.

Cleco®

Easy assembly/disassembly with a standard spanner wrench.

Hardened steel bearing plates resist wear and assures longer life.

Ratchet Wrenches

Stall Type

Cleco®

24 & 34 Series

Torque Range:
up to 68.3 Nm
up to 50.4 Ft. Lbs

- Stall type
- Non-Reversible



Cleco 24/34 Series Model Number Nomenclature

24	N	R	S	XX	H	XX
Tool Series						
24						
34						
Tool Style						
N – Non-reversible						
Tool Type						
R – Lever throttle ratchet wrench						
Torque Control						
S – Stall						
Maximum Torque						

(rounded to the nearest Nm)

Ratchet Head Size
(“A” dimension shown on next page)

12	16	25
13	18	29
15	20	37

Ratchet Head Style*

A – Miniature Straight	P – 20° Angled Right
H – Standard	R – 20° Angled Left
K – Thin	Q – 40° Angled Right
J – Extra Thin	T – 40° Angled Left
L – 3" Extended	

*For a complete list of attachments refer to Parts Manual #PL17-RA

Ratchet Wrenches

Clutch Type



H16, H30, 41 & 60 Series

Torque Range:
up to 415 Nm
up to 306 Ft. Lbs

- Clutch activated air shut-off (H16, H30 & 60 series)
- Air shut-off (41 series)
- Non-Reversible



Model Number	Free Speed		Maximum Torque		Maximum Socket Size		"A"		"B"		"C"		Weight		Length	
	RPM	Ft. Lbs.	Nm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	in.	mm	
H16NDR09H15	130	10.0	13.5	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	4.3	2.0	18.9	480	
H30NDR08H15	120	12.0	16.2	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	4.9	2.2	20.6	523	
41NDR236H15	360	23.0	31.1	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449	
41NDR172H15	265	32.0	43.3	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449	
41NDR130H15	200	42.0	56.9	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478	
H30NDR08H16	110	13.0	17.6	5/8	16	1	25.4	9/16	14.2	3.13	79.5	4.9	2.2	20.6	523	
41NDR236H16	335	25.0	33.8	5/8	16	1	25.4	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449	
41NDR172H16	245	34.0	46.0	5/8	16	1	25.4	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449	
41NDR130H16	185	45.0	60.9	5/8	16	1	25.4	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478	
H30NDR08H18	105	18.0	24.3	5/8	16	1 1/8	28.6	9/16	14.2	3.13	79.5	4.9	2.2	20.7	526	
41NDR236H18	315	29.0	39.2	5/8	16	1 1/8	28.6	9/16	14.2	3.13	79.5	5.8	2.6	17.7	449	
41NDR130H18	170	52.0*	70.4	5/8	16	1 1/8	28.6	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478	
H16NDR09H20	110	16.0	21.6	3/4	19	1 1/4	31.8	9/16	14.2	3.13	79.5	4.4	2.0	19.1	485	
H30NDR08H20	100	19.0	25.7	3/4	19	1 1/4	31.8	9/16	14.2	3.13	79.5	4.9	2.2	20.8	528	
41NDR172H20	215	42.0	56.9	3/4	19	1 1/4	31.8	9/16	14.2	3.13	79.5	5.8	2.6	17.7	449	
41NDR130H20	160	56.0*	75.8	3/4	19	1 1/4	31.8	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478	
60NDR092HD24	95	122.0	165.3	3/4	19	1 1/2	38.1	7/8	22.4	6.19	157.2	16.9	7.7	27.4	697	
H30NDR08H25	70	22.0	29.8	15/16	24	1 9/16	39.7	9/16	14.2	3.25	82.5	5.0	2.3	21.0	533	
41NDR172H25	155	53.0*	71.8	15/16	24	1 9/16	39.7	9/16	14.2	3.25	82.5	5.8	2.6	17.8	452	
41NDR130H25	115	70.0*	94.8	15/16	24	1 9/16	39.7	9/16	14.2	3.25	82.5	6.1	2.8	18.9	481	
60NDR092HD40	60	212.0	287.2	1 1/2	38	2 1/2	63.5	7/8	22.4	6.69	169.9	17.2	7.8	28.4	722	
60NDR092HD48	50	252.0	341.4	1 15/16	49	3	76.2	1	25.4	6.94	176.3	17.7	8.0	28.9	735	
60NDR092HD56	40	306.0	415.0	2-3/8	60	3 1/2	88.9	1	25.4	7.25	184.2	18.0	8.2	29.5	749	

General:

Air Inlet: 1/4" NPT (H16, H30),
3/8" NPT (41), 1/2" NPT (60)
Tool performance rated at 90 psi (620kPa) air pressure.

Standard Equipment:

H16, H30: Suspension bail, hex socket
41: Hex socket
60: Hex socket, reaction bar collar
(1/2" hex opening for reaction bar)

Socket Selection:

See pages 45-47

*WARNING: these terminations are not recommended for applications over 50 Ft. Lbs. (68 Nm) torque.

Pulse Nutrunners

Cleco®

**Durable.
Economical.
Low Maintenance.**

Unbeatable Performance

We are constantly improving our products to guarantee you ideal productivity. The new Cleco H-Series pulse tools combine legendary durability with unmatched repeatability so that you will be able to complete every joint quickly and reliably.

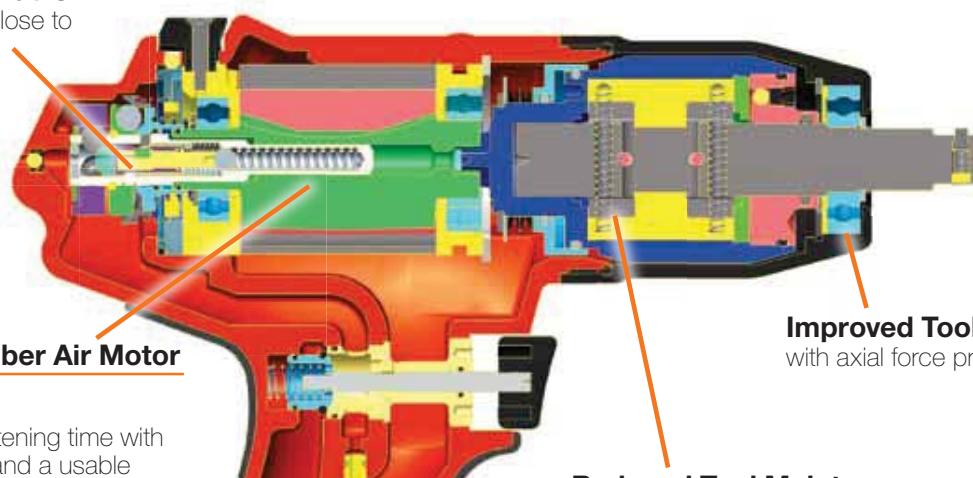
■ Broad Tool Selection

With a variety of shut-off and non-shut-off pulse tools to choose from you are sure to find just the right Cleco pulse tool for the job.



High Precision Shut-Off

mechanism ranges close to the characteristics of an electric tool at a tolerance of +/- 10% at Six Sigma.



Efficient 3-Chamber Air Motor

- Speed governor
- Reduces your tightening time with increased torque and a usable high-end dynamic.
- Unique design reduces blade wear.
- Less vibration for increased user comfort
- Reduced air consumption



3-Chamber Motor Housing

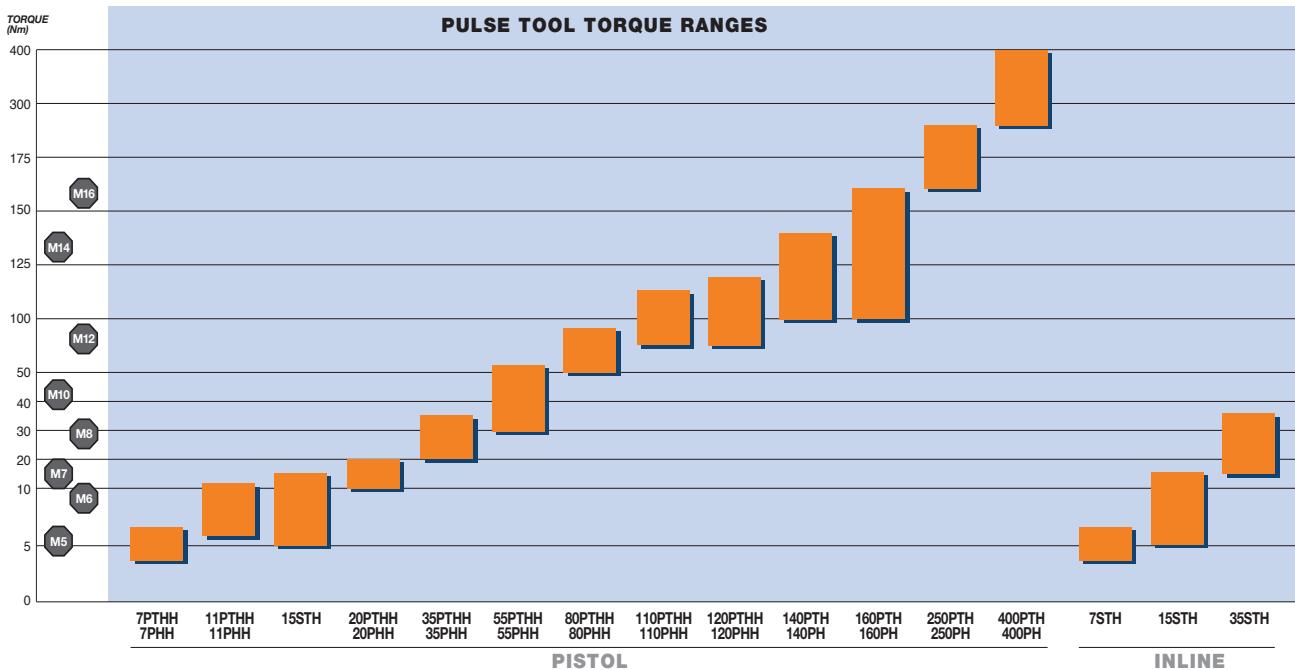
Reduced Tool Maintenance

- New patented double chambered pulse unit with built-in automatic oil reserve
- Up to 500,000 tightening cycles before the first service

Expansion chamber



Pulse Unit



Low Noise Levels

Noise levels of these tools are well below standard air tools for an operator-friendly environment. There is no loud metallic hammering under load.



Ships Ready For Error Proofing

- Works with existing TVP torque verifier
- Located near air inlet to maximize ergonomics



Easy Set-Up

- Insert 2mm hex into rear port of tool
- Positive stops in both directions to prevent loss and/or damage



Adjustable Motor Speed

- Easily adjustable motor speed to insure accuracy on hard joints
- Can be locked in place to prevent accidental adjustment



Pulse Nutrunners

Hydraulic Pulse Shut-Off & Non Shut-Off



H-Series PTH

Torque Range: 4 - 120 Nm
3.0 - 88.8 Ft. Lbs

Bolt Size: M5 - M12
#10 - 1/2"

- Inertia shut-off
- Motor govenor equipped
- External torque adjustment
- External speed control
- Torque signal port
- Adjustable pulse unit volume simplifies maintenance
- Market-leading repeatability
- Reversible
- Oilless blades



C-Series PTHC & PTHFC

Torque Range: 100 - 400 Nm
74 - 295 Ft. Lbs

Bolt Size: M12 - M20
1/2" - 3/4"

- Hydraulic pulse shut-off
- Motor govenor equipped
- External torque adjustment
- External speed control
- Reversible
- Oilless blades
- Torque signal port



C-Series STHFC & STHF

Torque Range: 2.6 - 35 Nm
1.9 - 26 Ft. Lbs

Bolt Size: M5 - M8
#10 - 3/8"

- Hydraulic pulse shut-off
- Motor govenor equipped
- External torque adjustment
- External speed control
- Reversible
- Oilless blades
- Torque signal port



Model Number Nomenclature

120 P T H H A XX Q

Maximum Torque Output
7 - 400 Nm

Tool Configuration
P - Pistol
S - Inline

Torque Control
(-) - Non-Shut-Off
T - Air Shut-Off

Torque Delivery
H - Hydraulic

Vintage

Output Termination

Q - Quick-change
2 - 1/4" Sq. Dr.
3 - 3/8" Sq. Dr.
4 - 1/2" Sq. Dr.
6 - 3/4" Sq. Dr.

Speed
40-4000 RPM

Air Feed
A - Top air feed

Pulse Nutrunners

Hydraulic Pulse Shut-Off

Cleco®

	Model Number	Drive Type	Torque Range		Free Speed	Weight		Air Consumption		
			Ft.Lbs.	Nm		RPM	Ibs.	kg	NPT	Hose I.D.
H-Series – Pistol Grip – Shut-Off Models										
	7PTHH352	1/4" Sq.Dr.	3.0-5.1	4-7	3500	1.74	0.79	1/4"	3/8"	7.06
	7PTHH35Q	1/4" QC	3.0-5.1	4-7	3500	1.74	0.79	1/4"	3/8"	7.06
	11PTHH352	1/4" Sq.Dr.	4.4-8.1	6-11	3500	1.81	0.82	1/4"	3/8"	7.06
	11PTHH35Q	1/4" QC	4.4-8.1	6-11	3500	1.87	0.85	1/4"	3/8"	7.06
	11PTHH353*	3/8" Sq.Dr.	4.4-8.1	6-11	3500	1.83	0.83	1/4"	3/8"	7.06
	20PTHH40Q	1/4" QC	7.4-14.7	10-20	4000	1.92	0.87	1/4"	1/2"	8.7
	20PTHH403*	3/8" Sq.Dr.	7.4-14.7	10-20	4000	1.90	0.86	1/4"	1/2"	8.7
	35PTHH40Q	1/4" QC	14.8-25.8	20-35	4000	2.31	1.05	1/4"	1/2"	15.9
S	35PTHH403*	3/8" Sq.Dr.	14.8-25.8	20-35	4000	2.31	1.05	1/4"	3/8"	15.9
H	55PTHH403*	3/8" Sq.Dr.	22.1-40.5	30-55	4000	2.54	1.15	1/4"	3/8"	15.9
U	80PTHH35Q	7/16" QC	36.9-59.0	50-80	3500	3.20	1.45	1/4"	3/8"	19.4
T	80PTHH354	1/2" Sq.Dr.	36.9-59.0	50-80	3500	3.10	1.40	1/4"	3/8"	19.4
O	110PTHH30Q	7/16" QC	55.3-81.1	75-110	3000	3.75	1.70	3/8"	1/2"	19.4
F	120PTHH304	1/2" Sq.Dr.	55.3-88.8	75-120	3000	3.75	1.70	3/8"	1/2"	19.4
C-Series – Pistol Grip – Shut-Off Models										
	140PTHC25Q	7/16" QC	74-103	100-140	2500	5.7	2.6	3/8"	1/2"	25.4
	160PTHC256	3/4" Sq.Dr.	74-118	100-160	2500	5.7	2.6	3/8"	1/2"	25.4
C-Series – Pistol Grip – Shut-Off Models – Trigger Throttle										
	250PTHFC226	3/4" Sq.Dr.	118-184	160-250	2200	8.8	4.0	3/8"	1/2"	33.5
	400PTHFC206	3/4" Sq.Dr.	185-295	250-400	2000	11.7	5.3	3/8"	1/2"	33.5
In-Line – Push-to-Start										
	7STHFA55Q	1/4" QC	1.9-4.9	2.6-6.6	5500	1.8	0.83	1/8"		7.0
	35STHFA40Q	7/16" QC	12-26	15-35	4000	3.1	1.4	1/4"	3/8"	15.9
	35STHFA404	1/2" Sq.Dr.	12-26	15-35	4000	2.9	1.3	1/4"	3/8"	15.9
C-Series – In-Line – Lever										
	7STHFC55Q	1/4" QC	1.9-4.9	2.6-6.6	5500	2.1	0.93	1/8"		7.0
	15STHFC40Q	1/4" QC	3.6-11	5.0-15	4000	2.4	1.1	1/4"	3/8"	16.5
	35STHFC40Q	7/16" QC	12-26	15-35	4000	3.3	1.5	1/4"	3/8"	15.9
	35STHFC404	1/2" Sq.Dr.	12-26	15-35	4000	3.3	1.5	1/4"	3/8"	15.9
	15STH40Q	1/4" QC	3.6-11	5.0-15	3000	2.4	1.1	1/4"	3/8"	16.5

PTHHA=Top Air Inlet

(*) 7/16" Quick Change Chuck available separately
as an accessory

Standard Equipment:

Suspension bail and torque adjusting wrench.
Torque signal port (pistol grip models only)

Optional Equipment:

Additional accessories: Page 53

General:
Tool performance rated @ 87 psi (6 bar) air pressure.



Pulse Nutrunners

Hydraulic Pulse Non Shut-Off



H-Series PH Non-Shut-Off

Torque Range: 4 - 120 Nm
2.9 - 88.5 Ft. Lbs

Bolt Size: M5 - M12
#10 - 1/2"

- External speed control
- Reversible
- Oilless blades



	Model Number	Drive Type	Torque Range		Free Speed	Weight		Air Consumption		
			Ft.Lbs.	Nm		RPM	Ibs.	kg	NPT	Hose I.D.
H-Series – Pistol Grip – Non Shut-Off Models										
N	7PHH602	1/4" Sq.Dr.	2.9-5.2	4-7	6000	1.70	0.77	1/4"	3/8"	8.7
O	7PHH60Q	1/4" QC	2.9-5.2	4-7	6000	1.74	0.79	1/4"	3/8"	8.7
N	11PHH653*	3/8" Sq.Dr.	4.4-8.1	6-11	6500	1.74	0.79	1/4"	3/8"	10.5
S	11PHH652	1/4" Sq.Dr.	4.4-8.1	6-11	6500	1.72	0.78	1/4"	3/8"	10.5
H	11PHH65Q	1/4" QC	4.4-8.1	6-11	6500	1.76	0.80	1/4"	3/8"	10.5
U	20PHH753*	3/8" Sq.Dr.	7.4-14.7	10-20	7500	1.85	0.84	1/4"	3/8"	17.3
T	20PHH75Q	1/4" QC	7.4-14.7	10-20	7500	1.90	0.86	1/4"	3/8"	17.3
O	35PHH653*	3/8" Sq.Dr.	14.7-25.8	20-35	6500	2.25	1.02	1/4"	3/8"	19.4
F	35PHH65Q	1/4" QC	14.7-25.8	20-35	6500	2.29	1.03	1/4"	3/8"	15.9
High Torque Pistol Grip – Non-Shut-Off Models										
F	55PHH603*	3/8" Sq.Dr.	22.1-40.5	30-55	6000	2.47	1.12	1/4"	3/8"	22.9
	80PHH604	1/2" Sq.Dr.	36.9-59.0	50-80	6000	3.09	1.40	1/4"	3/8"	26.5
	80PHH60Q	7/16" QC	36.9-59.0	50-80	6000	3.13	1.41	1/4"	3/8"	26.5
	110PHH55Q	7/16" QC	55.3-81.1	75-110	5500	3.68	1.66	3/8"	1/2"	30.0
	120PHH554	1/2" Sq.Dr.	55.3-88.5	75-120	5500	3.64	1.65	3/8"	1/2"	30.0

PTHHA=Top Air Inlet

(*) 7/16" Quick Change Chuck available separately as an accessory.

For 7-75 Series Models, small handle can be ordered by substituting "S" for "L" in model number.

General:

Tool performance rated @ 87 psi (6 bar) air pressure.

Standard Equipment:

Suspension bail and torque adjusting wrench.

Optional Equipment:

Additional accessories: Page 53

Rubber Tool Stand



Part Number	Tool Series
931041 (one piece)	D & H Series 7PTH – 120PTH
930119 (two pieces)	C Series 140/160PTH/PH/ 250PTH / 400PTH

TVP-100 Torque Signal Kit

Air signal to indicate shut-off.

Part Number	Tool Series
934918	PTH series pulse tools and vintage shut-off tools only

7/16" Quick Change Chuck Adapter

Part Number	Tool Series
935472	To convert 11/20/35/55PTH/PHHA/ PHH/PHHA to a Quick-Change chuck



Vibration Absorber

Part No.	Fits Model
935965	35/55PTH/PHHA
935966	80/110/120PTH/PHHA



Hydraulic Filler Unit

Part Number			Tool Series
Filler Unit Complete	Filler Unit Only	Connector Only	
928477	932072		140/160 PTHC../ PH..
928473	928483	928485	250/400 PTHC./ PH..
			35 STH..
928475	931663		7 STH..
928474	928486		15 STH..



Reserve Oil Filling Set

Part No.
936695PT



Hydraulic Oil

Part Number	Container Size
539317	One Quart



Covers

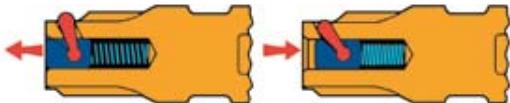
Part No.	Fits Model
937442PT	Protective cover for 7/11/20PTH/PH/7/11/20PHHA
937443PT	Protective cover for 35PTH/PH/35PHHA
937444PT	Protective cover for 55PTH/PH/55PHHA
937445PT	Protective cover for 80PTH/PH/80PHHA
937446PT	Protective cover for 110/120PTH/PH/110/120PHHA
937447PT	Protective cover for 7/11/20PTH/PH/7/11/20PHH
937448PT	Protective cover for 35PTH/PH/35PHH
937449PT	Protective cover for 55PTH/PH/55PHH
937450PT	Protective cover for 80PTH/PH/80PHH
937451PT	Protective cover for 110/120PTH/PH/110/120PHH



Impact Wrenches

Cleco®

Telescopic Impact Wrenches



Positive Lock Socket Retainer

With the positive lock socket retainer, sockets snap on... and stay on until released. Offered on spline drives, the retainer can be serviced without disassembling the tool.

Exclusive through-bolt construction reduces replacement costs

Steel front end/motor housing/handle are clamped together by four high-strength steel bolts. This exclusive feature provides better tool performance, eliminates stripped threads and loose inserts in motor housing.



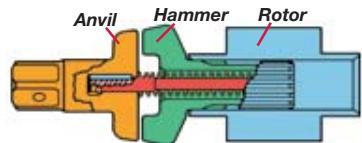
Positive oil-foam lubrication system reduces major cause of impact wrench maintenance.

Cleco impact wrenches feature a unique oil-foam bath that provides positive lubrication for the hammer, anvil and other working parts.



The system is designed so that if the impact mechanism runs low on 30 wt. oil, the tool will stop running, thus eliminating one of the major causes of impact wrench failure ... lack of lubrication. By simply refilling the oil reservoir, the tool can be returned to service.

Other impact wrenches soon throw off grease; run dry causing extra wear that shortens tool life and increases maintenance cost.

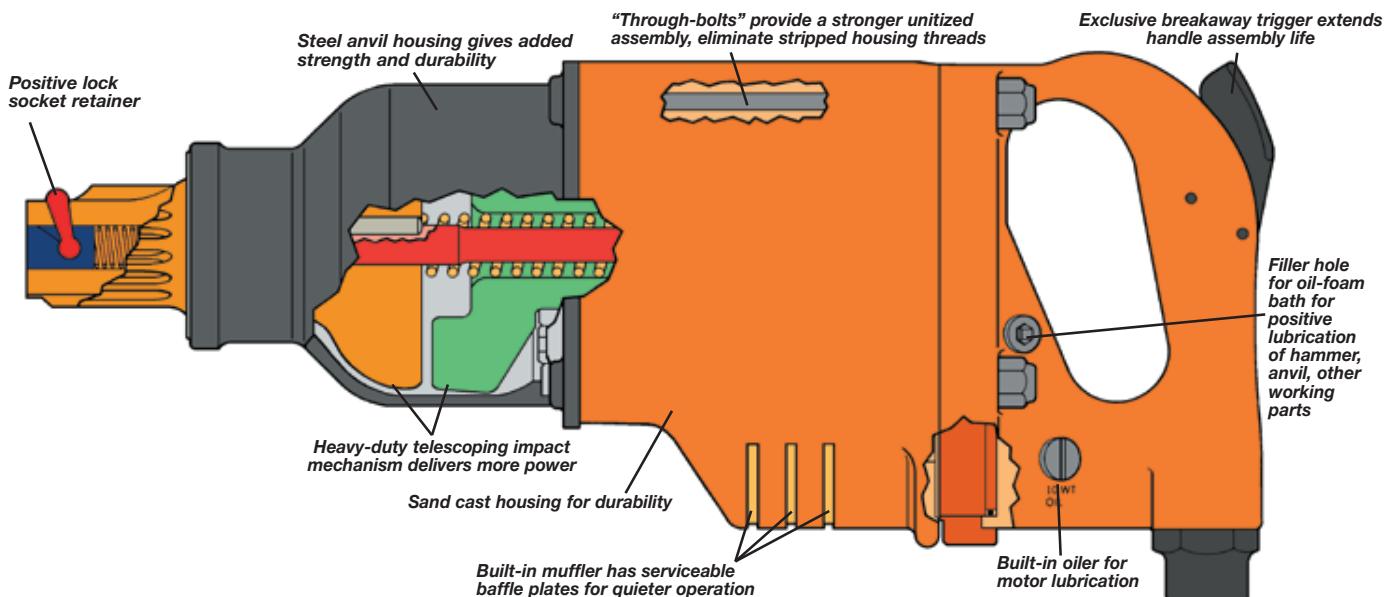


Proven heavy-duty telescoping impact mechanism adds power...cuts weight... reduces shock to the operator.

The smooth-hitting Cleco telescopic impact mechanism has only three major parts - hammer, anvil and rotor... providing more power directly to the fastener. The hammer is splined to the inside of the motor, which then impacts directly on the anvil, delivering more power per blow.

Other important features include:

- Comfortable grip handle
- Outside, inside triggers and pistol grip models
- Multiposition dead handle, and spade type "D" handle available
- Throttle can be feathered for speed control
- Simple face-type reversing valve simplifies maintenance
- Forged hammer and anvil for greater durability
- Rotor bearings and steel motor end plates fit either end of motor, reducing spare parts inventory and repair time.



Impact Wrenches

Inline, Pistol Grip & Spade Handle

Cleco®

WL & WP Series

Torque Range:	Bolt Size:
20 - 2450 Nm 15 - 1800 Ft. Lbs	M10 - M30 7/16" - 1 1/2"

- Lever and trigger start
- Reverse or forward bias
- 6" extended and spline drives available



WT Series Spade Handle

Torque Range:	Bolt Size:
1000 - 4000 Nm 750 - 3000 Ft. Lbs	M30 - M36 1 3/8" - 1 1/2"

- Inside or outside lever
- Positive lock socket retainer (spline drive)
- Multiposition dead handle
- Oil foam bath
- Reverse or forward bias



General Accessories

Balance Arms



Screwdriver balance arms absorb torque, support weight and improve productivity.

Cleco balance arms are engineered to deliver longer service life using durable components, rugged design and operator-sensitive features.

These arms absorb the torque produced by the screwdriver, eliminating torque reaction to the operator. Balanced by springs or air cylinders, the arm and not the operator supports the weight of the tool. By reducing the fatigue factors, the operator productivity is improved.

Tool movement and placement over the fastener is virtually effortless since most moving parts of the balance arm are mounted on ball bearings. Access to the tool is easily changeable by adjusting the springs or cylinder supporting the forearm.

Arm components and materials are selected for strength and rigidity. Precision aluminum sand castings used in the articulating arm section are light but sturdy.

Over 25 models of the Cleco screwdriver balance arms are available. Air cylinder models are capable of supporting tools weighing up to 10 lbs. (4.5 kg.). Spring models will support tools weighing up to 5 lbs. (2.3 kg.). Both styles have torque capacities of 10 ft. lbs. (13.5 Nm). Arms can be post mounted, wall mounted or mounted on an adjustable height post. Tool holders for all models will accommodate most major brands of air tools...straight and pistol.

Tool Holders

Selecting the proper tool holder for the tool used on Cleco balance arms enhances the ergonomic benefits of the arm. Tool holders allow the tool to swing, swivel and rotate, enabling the operator to work more comfortably and productively.

Standard and extended tool holders are available for parallel balance arms. Both models hold the tool perpendicular to the work, and are ideal for self-tapping and thread forming applications. Tool diameter capacity is up to 1 3/4 inch (45mm).

Manifold tool holders used on SBA and CSBA balance arms suspend the tool from the air inlet. They allow the tool to swing (or swivel when equipped with the optional swivel assembly) for ease of tool movement.



General Accessories

Balancers

Cleco®

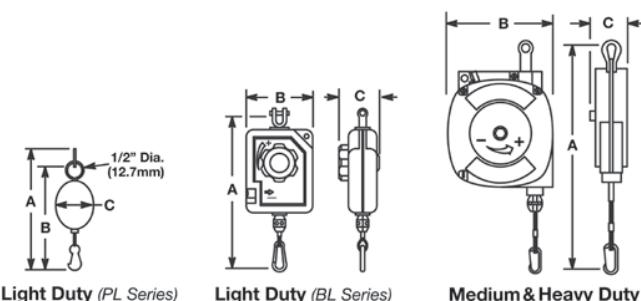


Cleco®

Ergonomic Tool Balancers

Capacity:
0.5 - 20.5 kg
1.0 - 45 Lbs.

- External tension adjustment
- 360° Swivel
- Retracting in-line cable



Model Number	Lock Feature	Capacity		"A"		"B"		"C"		Weight	
		lbs.	kg	in.	mm	in.	mm	in.	mm	lbs.	kg
Light Duty – 4.6 ft. (1.4m) Cable Travel											
PL-12A	–	12.0-1.0	5.5-0.5	6.8	171	5.1	130	2.3	58	–	–
Light Duty – 5.0 ft. (1.5m) Cable Travel											
200427	–	2.0-0	.9-0	10.9	277	4.4	112	1.6	41	1.3	0.6
200428	–	4.0-2.0	1.8-1.9	10.9	277	4.4	112	1.6	41	1.3	0.6
200429	–	5.0-3.0	2.3-1.4	10.9	277	4.4	112	1.6	41	1.3	0.6
Light Duty – 5.2 ft. (1.6m) Cable Travel											
BL-2A	–	2.0-1.0	0.9-0.5	10.4	263	4.0	102	2.2	56	1.1	0.5
BL-4A	–	4.0-2.0	1.8-0.9	10.4	263	4.0	102	2.2	56	1.1	0.5
Light Duty – 6.7 ft. (2.0m) Cable Travel											
BL-6A	–	6.0-4.0	2.7-1.8	12.9	327	5.5	140	3.1	79	3.3	1.5
BLL-6A	Ratchet	6.0-4.0	2.7-1.8	12.9	327	5.5	140	3.1	79	3.3	1.5
BL-8A	–	8.0-6.0	3.6-2.7	12.9	327	5.5	140	3.1	79	3.3	1.5
BLL-8A	Ratchet	8.0-6.0	3.6-2.7	12.9	327	5.5	140	3.1	79	3.3	1.5
Medium Duty – 6.6ft. (2.0m) Cable Travel											
BM-13A	Automatic	13-9.0	5.9-4.1	13.8	350	6.9	175	4.5	114	9.0	4.1
BML-13A	Automatic/Ratchet	13-9.0	5.9-4.1	13.8	350	6.9	175	4.5	114	9.0	4.1
BM-18A	Automatic	18-13	8.2-5.9	13.8	350	6.9	175	4.5	114	9.0	4.1
Medium Duty – 6.0ft. (1.8m) Cable Travel											
BM-25A	Automatic	25-18	11.4-8.2	20.7	527	7.8	197	6.6	169	19	8.6
BM-35A	Automatic	35-25	15.9-11.4	20.7	527	7.8	197	6.6	169	19	8.6
BM-45A	Automatic	45-35	20.5-15.9	20.7	527	7.8	197	6.6	169	19	8.6

General Accessories

Air Cylinder & Spring Balance Arms

Cleco®

- Ball bearing construction
- Supports tools weighing up to 5 lbs. (spring models) or up to 10 lbs. (air cylinder models).
- Post, wall, or adjustable height post mounting
- Single or parallel arms

*Air Cylinder
Single Arm Post
CPBA-18*



*Air Cylinder
Parallel Arm
Adjustable Height
CPBA-18-AH*



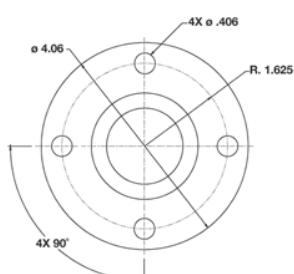
*Spring
Parallel Arm Post
PBA-18*



*Spring
Single Arm
Adjustable Height
SBA-18-AH*



Post mounting template



TOOLS NOT INCLUDED

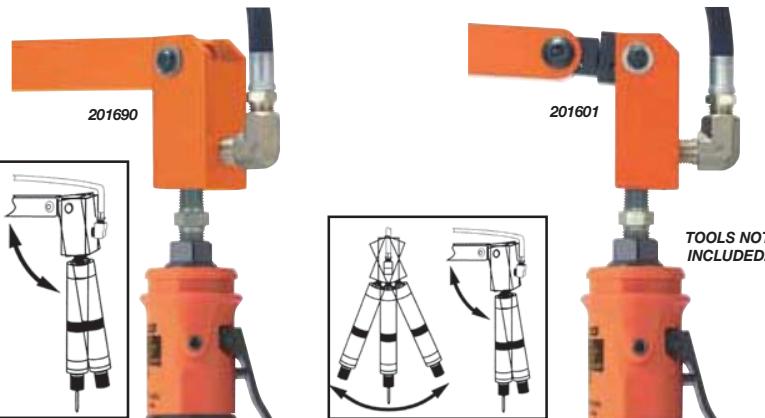
General Accessories

Air Cylinder & Spring Balance Arm Accessories

Single Arm Tool Holders

Part Number	Description
201690*	Manifold tool holder
201601*	Swivel manifold tool holder

*Use of 201601 requires 201690.



TOOLS NOT INCLUDED.

Parallel Arm Tool Holders

Part Number	Description
201675	Parallel tool holder
204167	Extended parallel tool holder
201607	Swivel tool holder (small)
201608	Swivel tool holder (large)



TOOLS NOT INCLUDED.



Articulating Arm Extensions

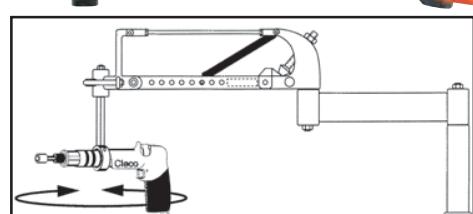
Part Number	Length (inches)
204014	12
204122	18
204119	24
204120	30

Conversion Kits for Cleco Screwdriver Balance Arms

To Convert Balance Arms		Part No.
From	To	
SBA-12	PBA-12*	521041
SBA-18	PBA-18*	521042
Spring	Cylinder	201606
SBA or PBA	SBA or PBA	
Standard Duty	Heavy Duty**	521060

* Conversion kits for -24 and -30 models are available upon request.

** Has four springs to support heavier tools or longer arms.



General Accessories

Cleco®

Air Hoses

Part Number	Hose I.D.		Fittings (NPT)		Length	
	in.	mm	in.	mm	ft.	m
A139856	3/16	4.7	1/8	1/8	6.0	1.8
45-1307	3/16	4.7	1/8	1/4	7.0	2.1
45-1408	1/4	6.4	1/4	1/4	8.0	2.4
45-1409	1/4	6.4	1/8	1/4	8.0	2.4
45-1508	5/16	7.9	1/4	1/4	8.0	2.4
45-1610	3/8	9.5	3/8	3/8	10	3.0
45-1810	1/2	12.7	3/8	1/2	10	3.0
45-1812	1/2	12.7	1/2	1/2	12	3.7
45-1825	1/2	12.7	1/2	1/2	25	7.6

General: 3/16" & 1/4" hoses have braided covers, all others have neoprene covers.

*Note: 3/8"-24 is a straight thread



Activeswivel

Part No.	NPT in.	Air Flow		Max. Pressure		Weight	
		SCFM	m³/min	psig	bar	lbs.	kg
SW-102	1/4	25	7.1	150	10.4	0.20	0.09
SW-103	3/8	45	12.7	150	10.4	0.40	0.18
SW-104	1/2	65	18.4	150	10.4	0.80	0.36
SWR-102*	1/4	25	7.1	150	10.4	0.25	0.11

* NOTE: Equipped with built-in flow regulator.

Quick Disconnect Fittings

Fitting Type*	NPT in.	Nominal Size		
		1/4"	3/8"	1/2"
Coupler (male NPT)	1/8	45-0710	-	-
	1/4	45-0711	45-0713	-
	3/8	45-0712	-	-
	1/2	-	-	45-0717
Coupler (female NPT)	1/4	-	-	-
	3/8	45-0732	45-0734	45-0736
Nipple (male NPT)	1/8	45-0720	-	-
	1/4	-	45-0724	-
	3/8	45-0722	45-0725	45-0726
	1/2	-	-	45-0727
Nipple (female NPT)	1/4	-	45-0744	-
	3/8	45-0742	45-0745	45-0746
	1/2	-	-	45-0747
Nipple (with hose barbs)	1/4**	45-0748	-	-
	1/2**	-	-	45-0753

* NOTE: Nipples of one size will not fit couplers of another size.

** NOTE: Indicates inside diameter of hose.

NOTE: 1/4" nominal will pass 49 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 30 cfm.

3/8" nominal will pass 90 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 53 cfm.

1/2" nominal will pass 168 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 109 cfm.

Lubricants

Part Number	Size	Description	M.S.D.S. No.
Oils			
540397	1 qt. plastic	Air line oil	CPT-153
533485	1 gal. metal	Air line oil	CPT-153
536333	1 gal. metal	High film strength	CPT-154
45-0918	1 qt. plastic	Air line oil (Dotco)	CPT-155
45-0919	1 gal. metal	Air line oil (Dotco)	CPT-155
539317	1 qt. plastic	Hydraulic oil (Pulse)	CPT-157
Greases			
513156	18 oz. can	Teflon grease	CPT-145
540394	2.8 oz. tube	Teflon grease	CPT-145
45-0983	2 oz. tube	Dotco gear grease	CPT-147
45-0980	2 oz. tube	Dotco gear lube	CPT-148

NOTE: Under normal conditions of use, lubrication products sold separately or for use within these tools should not cause an exposure hazard.

Refer to the Material Safety Data Sheet (M.S.D.S.) for Safety and Disposal information. M.S.D.S. sheets shown in the chart are available upon request from Cooper Tools.



Push Type Grease Gun

Part Number: 45-1982

General Accessories

Apex Fastener Tools

APEX®

Quality Fastener Tools

For more than half a century Apex has maintained the position of world leader in industrial fastening tools. Many power and insert bits, socket combinations and other drivers/adapters pioneered by Apex have today become industry standards, while Apex quality, service and selection give you unsurpassed value.

More Quality For Your Money

Apex quality starts with the selection of raw materials. Only carefully chosen, high grade tool steel is used to make Apex industrial fastener tools. Next, each tool is precision machined from solid bar stock to exacting standards of accuracy. You always get a snug, secure fit – a fit that is not possible from stamped tools.

Finally, each Apex fastener tool is tempered with our exclusive heat treating process. During this step the degree of hardness is determined based upon the application.

Fast Delivery

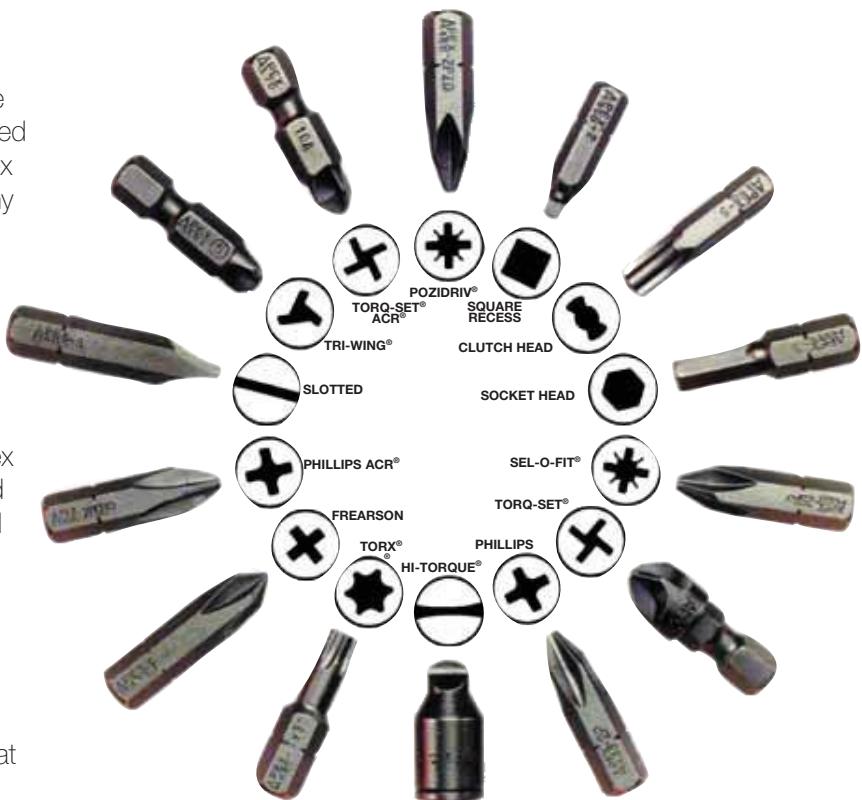
All Apex standard catalog items are available off-the-shelf for immediate delivery. If you need special assistance with your order, your Apex manufacturer's representative can handle any questions you may have.

Special Orders

Apex offers the broadest selection of screw driver and nut runner tools available, from bits, sockets and universal wrenches to extensions, adapters and nut setters. If you have a special application, contact your Apex representative. We may have what you need in stock, or can design and produce special fastener tools for almost any application.

Ordering Information

Apex products are distributed world-wide. For a catalog of the complete line of Apex quality fastener tools or to locate your nearest Apex distributor, visit our website at www.apex-tools.com.



Registered Trade Marks: HI-TORQUE, Voi-Shan; TORX, Camcar Division of Textron; ACR, POZIDRIV, TORQ-SET and TRI-WING, Phillips International Co.; SUPADRIV, EIS (Fasteners) LTD.; SEL-O-FIT, FLIP-TIP; and Apex, Apex Tool Group, LLC.

General Accessories

Apex μ -Guard



Quality Anti-Mar Fastener Tools Begin With Quality Fastener Tools.

Apex μ -Guard™ provides a protective barrier between genuine Apex fastener tools and your finely finished workpiece. The free-spinning patent-pending design provides maximum protection for polished and highly sensitive surfaces.

Apex μ -Guard™ covering is made of a thermo plastic urethane (TPU elastomer) which cushions against costly incidental side impacts. It offers the lowest coefficient of friction for maximum tool efficiency. It is also non-removable for tamper resistance.

With Apex μ -Guard™ you get the proven Apex fastener tool fit and performance plus the best protection available against marring and in-system damage.

μ -Guard™ is your guard against the potential hazards caused by rotational friction.



*If it doesn't say Apex
on the outside, how can
you be sure of what's
on the inside?*

Prevents Side Impact Damage



Free-Spinning Design



Virtually Damage Free



Sales & Service Centers

Please note that all locations may not service all products. Please contact the nearest Apex Tool Group Sales & Service Center for the appropriate facility to handle your service requirements.

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Warranty

Apex Tool Group, LLC warrants products and parts sold by it, insofar as they are of its own manufacture, against defects of material and workmanship, under normal use and service in accordance with its written instructions, recommendations, and ratings for installation, operation, maintenance, and service of products, for a period of **ONE YEAR FROM THE DATE OF INITIAL USE, BUT IN NO EVENT SHALL THE WARRANTY EXCEED 24 MONTHS FROM DATE OF DELIVERY TO DISTRIBUTOR.** Proof of Purchase with shipment date must be furnished by the user to validate the warranty. This warranty applies only to products manufactured by Apex Tool Group and specifically excludes products manufactured by others. Products not manufactured by Apex Tool Group are warranted only to the extent and in the manner warranted to Apex Tool Group by the manufacturer

and then only to the extent Apex Tool Group is able to enforce such warranty. Apex Tool Group's warranty with respect to products manufactured by it is limited to the repair or replacement, as Apex Tool Group may elect, of any defective part regarding which the Distributor has given 5 days written notice from the discovery of such defect. Installation and transportation costs are not included. Apex Tool Group shall have the option of requiring the return to it of the defective material, transportation prepaid, for inspection. No allowance will be made for repairs without Apex Tool Group approval. **APEX TOOL GROUP MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, AND HEREBY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Lubrication Products

Apex Tool Group products are classified as non-hazardous manufactured items, defined in the OSHA 1910.1200 Hazard Communication Standard as "Articles". These products, under conditions of normal use, do not release or cause exposure to a hazardous chemical.

Under normal conditions of use, lubrication products sold separately for or used within these tools should not cause an exposure hazard. Refer to the Material Safety Data Sheet (M.S.D.S.) for Safety and Disposal Information. M.S.D.S. sheets are available upon request from Apex Tool Group.

Apex Tool Group is also aware of, and complies with, the provisions of section 611 amendments

to the Clean Air Act of 1990. No ozone depleting chemicals have been used in the manufacture of our products.

If you resell or distribute these products, you have the responsibility for ensuring that the Material Safety Data Sheets are provided to the purchaser.

Proper lubrication is essential to the economical operation of pneumatic and electric tools. Apex Tool Group perform better and their life is extended by using the recommended lubricants. All lubricants that are listed in the accessory section of this catalog have undergone extensive testing and are recommended for use with Apex Tool Group products.

Fastener Selection

The suggested fasteners listed in this catalog are determined by matching a tool's maximum rated load to Society of Automotive Engineers (SAE) Grade 5 and International Organization of Standardization (ISO) Grade 9.8 fasteners. The torque capabilities for SAE Grade 5 fasteners are from SAE Manual, SAE J429 (Mechanical and Material Requirement for Externally Threaded Fasteners). The torque capabilities for ISO Grade 9.8 fasteners are from ISO 898-1 (Mechanical Properties of Fasteners). All values selected are based on lubricated fasteners.

The suggested fasteners listed in this catalog are advisory only, and Apex Tool Group recommends that you further consult other technical references before final tool selection. Reliance on the accuracy of this catalog data for any purpose by anyone is at the sole risk of that person. Apex Tool Group is not responsible for any loss, claim, or damage arising from improper tool selection.

The torque values listed under the headings "TORQUE" are tested on an ISO 5393 soft joint rate test fixture unless otherwise stated by a special note.

General Safety Instructions

These Safety Instructions must be accessible to the operator at all times. They must be shown and made available to all people involved in the use of the tool.

 The operator must understand the Safety Instructions and the Installation, Operation, and Adjustment Procedures provided in the Technical Manual (included with the tool). These Safety Instructions are not intended to be all inclusive. Study and comply with all applicable Federal, State, and Local Regulations. Contact your local distributor for assistance.

 This symbol identifies the potential for a hazardous situation. If this warning is not followed, a serious injury could occur.

 Always disconnect the tool from the air hose before adjusting or repairing.

 Immediately shut off the tool in the case of unusual sound or vibration. Disconnect the tool from the air hose. Have a qualified person check the tool and repair before using.

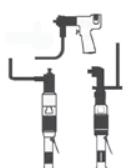
When unpacking the tool, closely check for shipping damages and accuracy of the shipping documentation.

 Do not wear loose clothing, jewelry, or rings. Injury may result from being caught in tools. Avoid direct contact with lubricants, grease or adhesives.

  Safety glasses or face shield must be worn.

  Wear gloves, ear protection and other protective equipment when required.

Do not modify the tool, any guard or accessory unless approved in writing by Apex Tool Group.

 We recommend the use of a reaction bar to prevent an uncontrollable reaction of the tool. This use is dependant on the following factors: torque, joint, air pressure, form of the tool and the individual user. Consider the use of reaction bars to prevent possible injury.

Implement and follow a Safety Maintenance Program to provide inspection and maintenance of all phases of tool operation and air supply equipment.

 Sockets and bits used with nutrunners and screwdrivers should be of the power tool or industrial type. Do not use hand tool sockets on a power tool. Hand tool sockets can break, resulting in a hazard of flying pieces. Worn sockets or bits reduce the power delivered to the fastener, cause drive wear and increase the chance for breakage. Inspect sockets, bits and drives for wear or damage and replace as necessary.

Noise & Vibration

Refer to test data page included with tool.

Intended Use

Air assembly tools are intended for tightening of threaded joints only. Tools must be used for their designated purpose. Do not use as a hammer, lever or other improper usage that can cause tool damage and lead to operator injury.

Installation & Operation

Only qualified and trained operators should install, adjust or use air assembly tools.

Connect the tool to an air line with a maximum pressure of 6.2 bar (90 psig). Adjust the air line lubrication to a minimum to reduce possible contamination of the environment by the exhaust air. The work area must be well ventilated.

 Inspect the air hose and fittings. Do not use damaged, frayed or deteriorated hoses. A hose rupture can cause injury.



When using right angle nutrunners, be sure the throttle is positioned relative to the angle head so the throttle will not become wedged against an adjacent object in the ON position due to torque reaction.

The angle head may be repositioned with respect to the lever to accommodate proper location for the task. If the tool is to be reversed, locate throttle lever in a neutral position that will prevent entrapment.

Keep the tool clean and dry to provide the best possible grip. The tool should be held in such a way to be safe and comfortable. Firmly grasp the handle of the tool and apply the socket to the joint before starting the tool.

Adjusting Torque For Shut-Off Tools

 Screwdrivers and nutrunners with clutches can stall rather than shut off if the clutch is adjusted over the maximum power output of the tool, or if there is a drop in the air pressure. Low or fluctuating air pressure can cause tool to fail to shut off! The user must be prepared to resist the torque until the throttle is released.

Expose clutch through movement of the clutch shield. Using the hex wrench supplied, turn clockwise for maximum torque or turn counterclockwise for minimum torque.

NOTE: For best results, start from "MIN" torque and adjust in "MAX" direction.

Maintenance, Assembly & Disassembly

Inspect air assembly tools every 500 operating hours or every six months, whichever comes first. Replace worn parts using only genuine Apex Tool Group replacement parts.

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Power Tools Sales & Service Centers

Please note that all locations may not service all products. Please contact the nearest Apex Tool Group Sales & Service Center for the appropriate facility to handle your service requirements.

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