

Cleco WL & WP Series Impact Wrench Specifications



Model Number	Bolt Size	Square Output Drive	Torque Range	Impacts per Minute	Free Speed	Length	Weight	Side to Centre	Air Consumption			
	Size								Torque Range	Min. Hose Size	Air Cons. m ³ / min.	
	mm											
Inline - lever start												
WL-200-3	M10	3/8	20 - 68	3200	3000	216	1.4	25	1/4"	1/4"	0.51	
WL-200-4	M10	1/2	20 - 81	3200	3000	216	1.5	25	1/4"	1/4"	0.51	
Pistol grip - trigger control												
WP-255-3P	M10	3/8	80 - 100	1150	9500	145	1.2	25	1/4"	1/4"	0.85	
WP-455-4R	M20	1/2	50 - 502	1400	6500	176	2.4	---	1/4"	1/4"	1.13	
WP-455-4P**	M20	1/2	50 - 502	1400	6500	176	2.4	---	1/4"	1/4"	1.13	
WP-2050-6	M20	3/4	170 - 800	1000	6000	162	3.5	42	3/8"	3/8"	1.27	
WP-2060B-6	M24	3/4	350 - 950	1000	4000	197	5.4	46	3/8"	3/8"	1.70	
WP-2060B-8	M24	1	350 - 1200	1000	4000	197	5.5	46	3/8"	3/8"	1.70	
WP-2110B-8	M30	1	1000 - 2250	880	4600	241	9.4	56	1/2"	3/8"	2.83	
Pistol grip - trigger control - with higher reverse power***												
WP-2049-6	M20	3/4	170 - 750	1000	6200	162	3.5	42	3/8"	3/8"	1.27	
WP-2059-6	M24	3/4	350 - 950	1000	4000	197	5.4	46	3/8"	3/8"	1.70	
WP-2059-8	M24	1	350 - 1,100	1000	4000	197	5.5	46	3/8"	3/8"	1.70	
WP-2109B-8	M30	1	1000 - 2250	880	4300	241	9.4	56	1/2"	3/8"	2.83	

General information:
Tool performance data measured at 6.2 bar inlet air pressure at the air inlet tube.

Optional equipment:
86909 Locking pin for WL-200
Additional accessories:
See catalogue SP-1000

Standard equipment:
Operating manual and maintenance instructions

**Square drive with sprung pin

***With increased breakaway torque in reverse

2049 Series: 750 ft.-lbs. (1000 Nm)

2059 Series: 1200 ft.-lbs. (1600 Nm)

2109 Series: 2500 ft.-lbs. (3400 Nm)

Model Number	Suitable for Bolt Size	Square Output Drive	Torque Range	Impacts per Minute	Free Speed	Length	Weight	Side to Centre	Air Consumption			
									Torque Range	Min. Hose Size	m ³ /min.	
												mm
Trigger control - spade handle												
WT-2110-8	M30	1	1000 - 2250	880	4600	327	9.5	56	1/2"	1/2"	2.83	
WT-2120-12	M36	1 1/2	1600 - 4000	850	3300	362	12.5	59	1/2"	5/8"	2.97	
Trigger control - spade handle - with higher reverse power*												
WT-2109-8	M30	1	1000 - 2,250	880	4300	327	9.5	56	1/2"	1/2"	2.83	
WT-2119-12	M36	1 1/2	1600 - 3500	820	3300	362	13.1	59	1/2"	5/8"	2.97	

General information:
Tool performance data measured at 6.2 bar inlet air pressure at the air inlet tube.

Optional equipment:
Yoke for second handle
Second handle

Standard equipment:
Operating manual and maintenance instructions

Additional accessories:
See catalogue SP-1000

2109 Series: 2500 ft.-lbs. (3400 Nm)

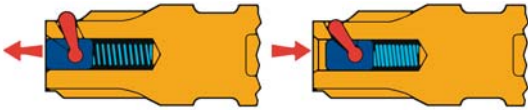
2119 Series: 3500 ft.-lbs. (4700 Nm)

*With increased breakaway torque in reverse

A New Generation of Impact Wrenches

Patented Positive Locking Socket Retainer

The socket engages in the patented positive locking socket retainer (U.S. patent 3.890.051) and is retained until released. As the retainer is connected to the tool via a spline, it can be maintained without dismantling the tool.



Assembly Using Through Screws Reduces the Spare Part Costs



The end of the output drive made of steel and the motor, the housing and the handle are connected by four high-strength steel screws. This special

feature improves the tool performance and brings an end to stripped threads and loose parts inside the motor housing.

Forced Lubrication Using Oil Foam Reduces the Most Common Maintenance Task on Impact Wrenches

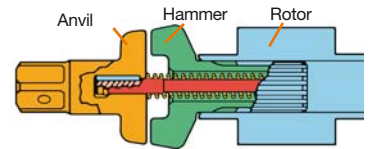


Cleco impact wrenches use a unique oil foam bath for the forced lubrication of the hammer, anvil and other moving parts. The system is designed so that the tool shuts-off if there is a shortage of oil in the impact

mechanism. This aspect removes one of the main causes for the failure of impact wrenches: lack of lubrication. The tool can be ready for use again by simply topping up with oil.

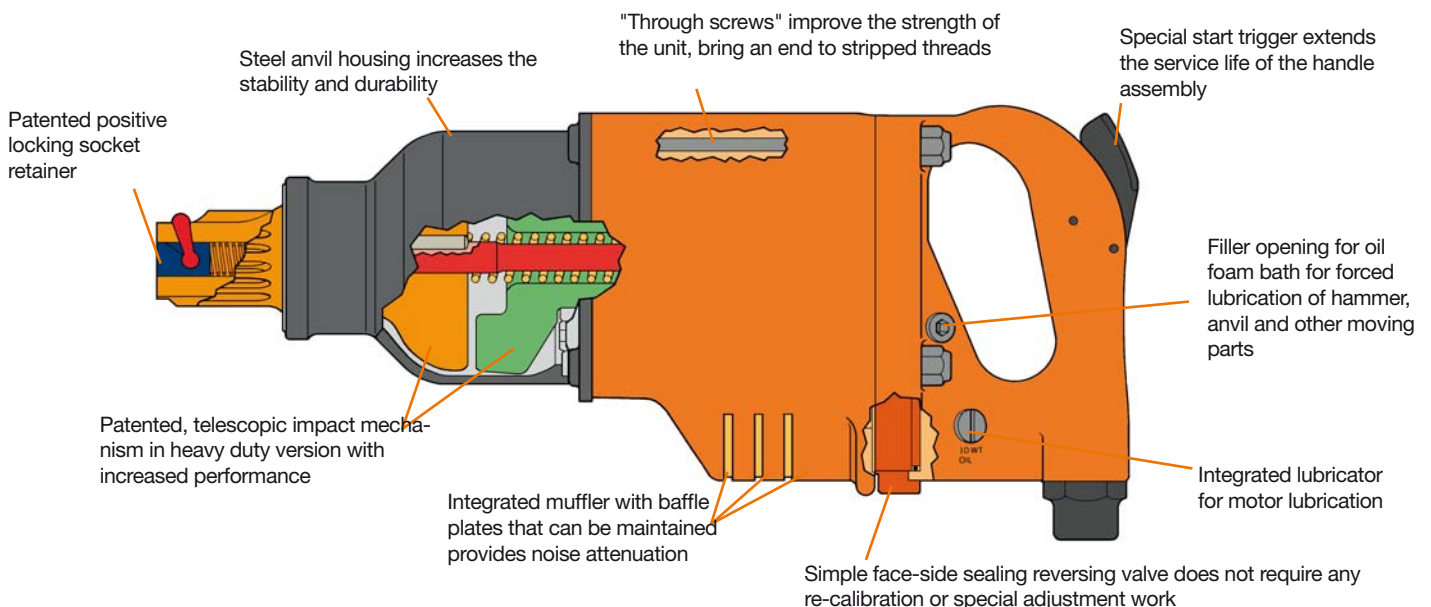
Proven, Patented Impact Mechanism Increases the Performance, Reduces the Weight and Lowers the Shock for the User

The softly impacting telescopic impact mechanism on the Cleco wrench is patented (U.S. patent 3.156.3340). It comprises only three main components – hammer, anvil and rotor – and as a result applies more force directly to the fastening element. The hammer is connected to the rotor via a spline. It impacts directly on the anvil, as a result the force applied with each impact increases.



Further Important Features:

- Comfortable grip handle
- Models with outside and inside trigger and pistol grip
- Second handle that can be placed in any position and spade-shaped handle, type "D", available
- Trigger with regulator function for speed control
- Simple, face-sealing reversing valve eases maintenance
- Forged hammer and anvil with higher durability
- Rotor bearing rings and motor end plates made of steel are identical on both ends of the motor; as a result low parts inventory and repair time.



The Series TVP-100 torque verifier provides low-cost certainty during assembly for pneumatic, rotating and pulsing nutrunners.

The new Cleco torque verifiers TVP-100 improve the assembly process as user errors due to releasing the trigger too early, stripping the screw thread or re-hits are indicated.

The Series TVP-100 is designed for usage with pneumatic Cleco shut-off nutrunners and Cleco pulse shut-off nutrunners with torque verifier kit.

The Series TVP-100 provides optical and acoustic feedback both for individual fastening parameters and for fastening groups and in this way ensures that each element is correctly and completely fastened.

Building on the TME controller technology from Cleco, the user interface on the series TVP-100 permits straightforward setup and operation of the tool.

The Series TVP-100 measures the fastening sequence on the pneumatic tool connected.

Deviations from a normal fastening sequence due to re-hits, stripping threads, prematurely releasing the trigger or a number of other variables result in an acoustic and optical NOK signal from the verifier that notifies the operator of the error. While the measuring and control electronics TME111 check the tool and therefore the fastening process, the Series TVP-100 represents a cost-effective option for checking the shut-off process.



Cleco Torque Verifier Specifications



Features

- Check nutrunner settings with optical and acoustic OK/NOK indication
- On-screen check on the individual nutrunner status with count function
- Graphic indication with a graph for each fastening
- Saves 1,000 processes
- Sequence control feature
- 8 parameter sets available for different applications
- "Auto Cal" permits quick, straightforward tool set-up for different fastening types
- Password-protected
- Different languages can be selected

TVP-100 Torque Verifier

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

*230VAC units are CE certified.

All model numbers include power cable, air signal transducer, 8 metre cable for connection of the TVP to air signal transducer and 2.3 metre air line for connection of the transducer to the tool.

NOTE: The tool must be equipped with a signal kit for the torque verifier.

24 V inputs/outputs:

Inputs: Up to 8 applications
Batch accept
Reject

Outputs: Cycle accept
OK indication
NOK indication

Torque Verifier Kits

Part Number	For the Tools...
301106	19SCA & 19RAA Series
302021PT	19TTA & 19PTA Series
201900	24RAA & 34RAA Series (old version)
301937PT	24RAA & 34RAA Series (new version)
934918	PTH Series pulse nutrunners (C & D & H Series)

Cable for Dig. I/O

Part Number	Description
941195-100	Connection cable for digital I/O, 12 PIN round connector to flying lead, length 10 m

Cable

Part Number	Description
207237	115 V transducer and cable
207238	230 V transducer and cable

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

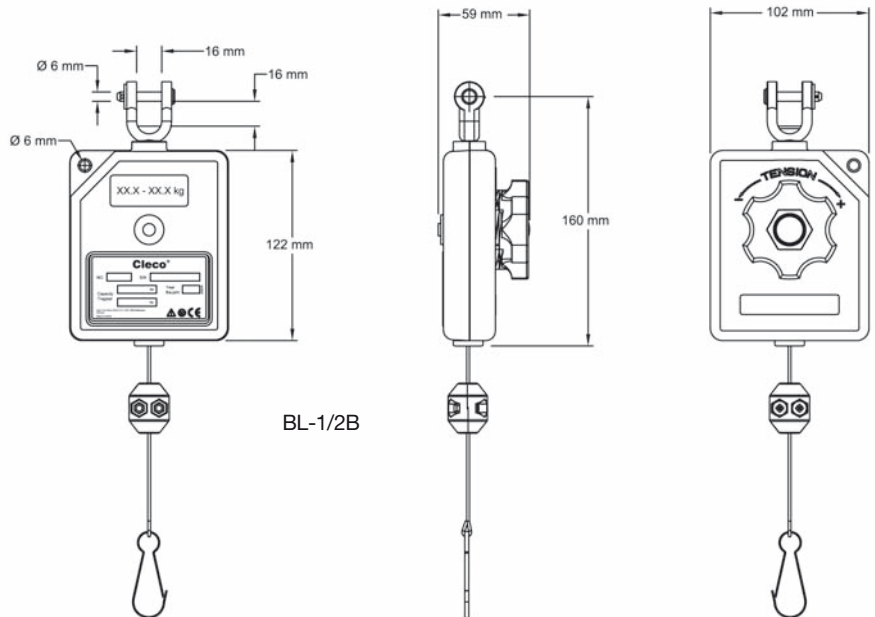


Load Capacity Range 0.5 - 1.8 kg

- Impact-resistant plastic housing
- Resilient, durable spring
- Mounting eye can be rotated 360°
- Mounting point for safety chain
- Adjustable cable stop
- Adjustment of the spring tension using external rotary knob
- Nylon rope



BL-2B

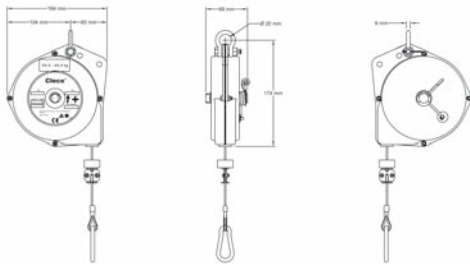


BL-1/2B

Model Number	Load Capacity	Rope	Weight
	kg	m	kg
BL-1B	0.5 - 0.9	1.6	0.43
BL-2B	0.8 - 1.8	1.6	0.43

Load Capacity Range 0.4 - 2.3 kg

- Steel housing, colour orange RAL2004
 - Adjustable cable stop permits adjustment of tool to the required height
 - Cable diameter 2.5 mm
- Option: 939597 safety chain (L=0.38 m)



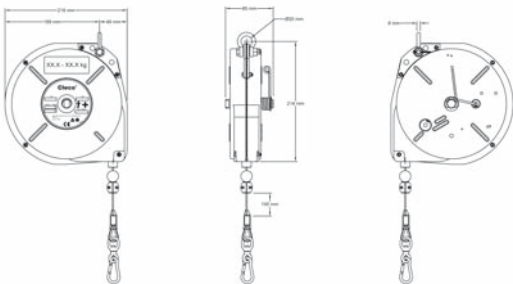
BL-3B



BL-3B

Load Capacity Range 1.8 - 10 kg

- Steel housing, colour orange RAL2004
 - Spring break protection
 - Adjustable cable stop permits adjustment of tool to the required height
 - Carabiner hook can be rotated 360°
 - Cable diameter 2.5 mm
- Option: 939597 safety chain (L=0.38 m)



BL-5C / 7C / 10C



BL-7C

Model Number	Load Capacity	Rope	Weight
	kg	m	kg
BL-3B	0.4 - 2.3	2.4	1.8
BL-5C	1.8 - 4.5	2.4	3.8
BL-7C	3.6 - 6.8	2.4	3.8
BL-10C	7.3 - 10.0	2.4	4.2

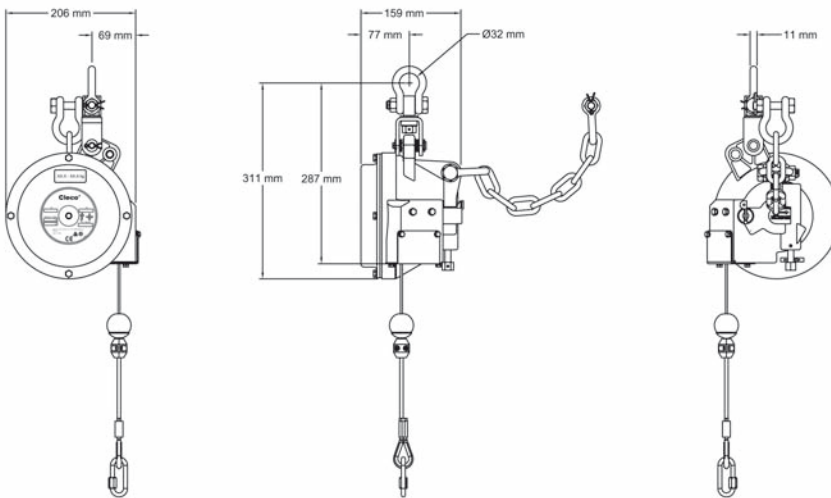
Cleco Balancers BM Series

Load Capacity Range 2.3 - 30 kg

- Aluminium housing
 - Spring break protection
 - Adjustable cable stop permits adjustment of tool to the required height
 - Manual drum locking
 - Coated cable drum against wear
 - Mounting bar can be rotated 360°
 - Cable diameter 3.0 mm
- Option: 939536 safety chain



BM-14B



BL-5B / 9B / 14B / 18B / 23B / 30B

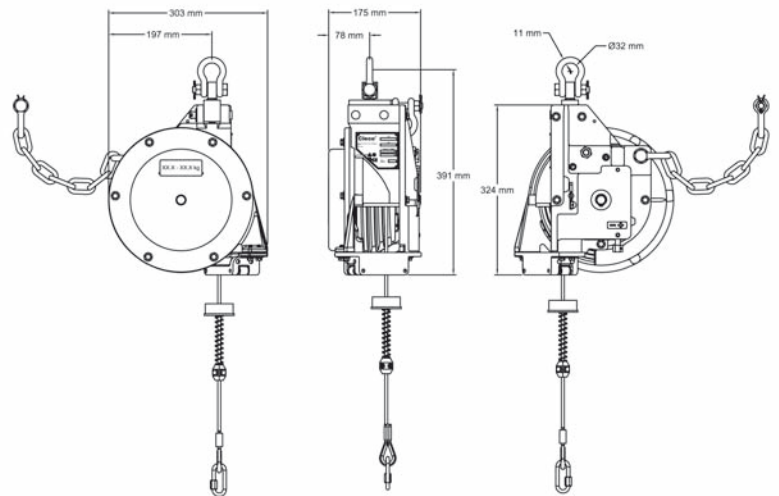
Model Number	Load Capacity	Rope	Weight
	kg	m	kg
BM-5B	2.3 - 5.0	1.8	7.4
BM-9B	5.0 - 9.0	1.8	7.4
BM-14B	9.0 - 14.0	1.8	7.4
BM-18B	13.0 - 18.0	1.8	7.4
BM-23B	18.0 - 23.0	1.8	7.4
BM-30B	23.0 - 30.0	1.8	7.4

Load Capacity Range 31 - 45 kg



BH-39B

- Aluminium housing
- Spring break protection
- Adjustable cable stop permits adjustment of tool to the required height
- Manual drum locking
- Coated cable drum against wear
- Mounting bar can be rotated 360°
- Cable diameter 5.0 mm
- Option: 939536 safety chain



BH-39B / 41B / 45B

Model Number	Load Capacity	Rope	Weight
	kg	m	kg
BH-39B	31.0 - 39.0	2.1	17
BH-41B	36.0 - 41.0	2.1	17
BH-45B	40.0 - 45.0	2.1	17

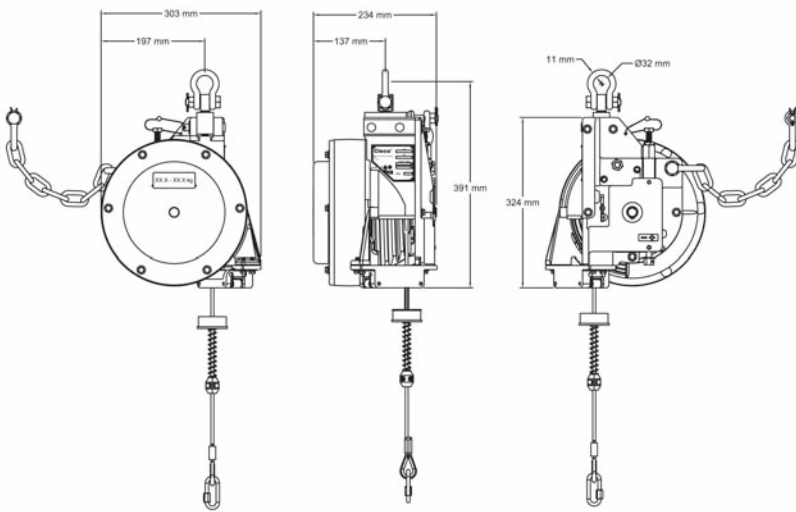
Cleco Balancers BH Series

Load Capacity Range 38.3 - 91 kg

- Two-spring model
 - Aluminium housing
 - Spring break protection
 - Adjustable cable stop permits adjustment of tool to the required height
 - Manual drum locking
 - Coated cable drum against wear
 - Mounting bar can be rotated 360°
 - Cable diameter 5.0 mm
- Option: 939536 safety chain



BH-52B

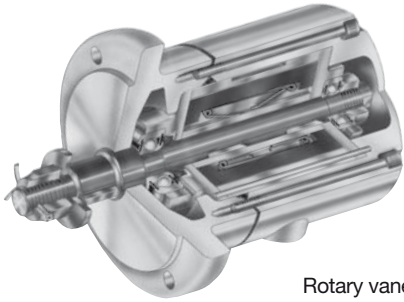


BL-52B / 57B / 66B / 75B / 79B / 91B

Recommendable:
Additional securing using safety chain/rope

Model Number	Load Capacity	Rope	Weight
	kg	m	kg
BH-52B	38.3 - 52.0	2.1	24
BH-57B	52.0 - 57.0	2.1	24
BH-66B	56.0 - 66.0	2.1	24
BH-75B	65.0 - 75.0	2.1	24
BH-79B	72.0 - 79.0	2.1	24
BH-91B	79.0 - 91.0	2.1	24

Select the Right Pneumatic Power Motor for Your Application



Rotary vane
motors

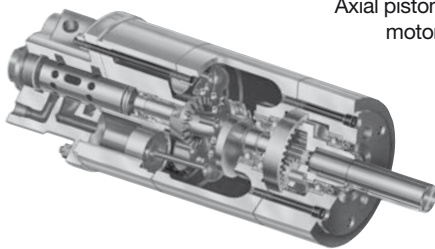
The Apex Tool Group's pneumatic power motors have been developed for flexibility and reliability. Cleco pneumatic power motors cover a wide range of applications where compressed air is advantageous: powering compressed air machinery, raising foundry copes and drags, rotating a turntable, mixing paint, powering cranes, actuating valves or as a power source for mechanical gripper arms or universal joints

Rotary Vane Motor*



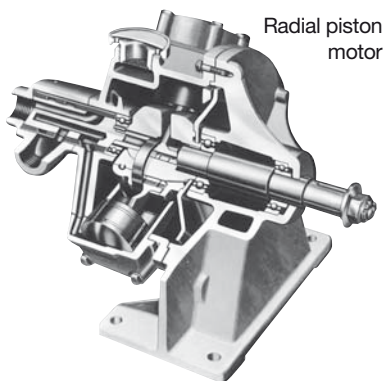
Axial piston
motor

The Apex Tool Group offers two types of these motors, the large Cleco MR Series (1.0 to 7.5 HP) with spring-loaded blades and small to medium sizes (0.14 to 2.3 HP). All motors have been designed for durability with precision heavy-duty bearings and multiple blade rotors for smooth power. There is a wide range of speeds and torques as well as a selection of foot, face, or flange mountings. These motors require compressed air line lubrication for long, trouble-free service. Install the lubricator as close as possible to the motor. These motors operate satisfactorily even in environments with high temperatures up to 200° F (93° C).



Axial Piston Motor*

These small, light Cleco motors are ideal for installation in tight spaces. The rugged design and precision manufacturing of these motors permit long service life with minimum maintenance. Generously sized spindle bearings permit an overhung weight on spindle with no external support.



Radial piston
motor

High torques are an inherent characteristic of compressed air piston motors, a feature that makes them very attractive for applications that required high starting loads. The overlapping of power impulses in axial piston motors permits even torque and full power in both directions of rotation. These motors should be operated under load and horizontally. Axial piston motors are ideal for start-stop operation. It is not recommended to operate them at speeds greater than 75% of free speed. Their enclosed design permits usage in corrosive or dusty environments. These motors operate satisfactorily even in environments with high temperatures up to 200° F (93° C). Lubrication nipples are provided for

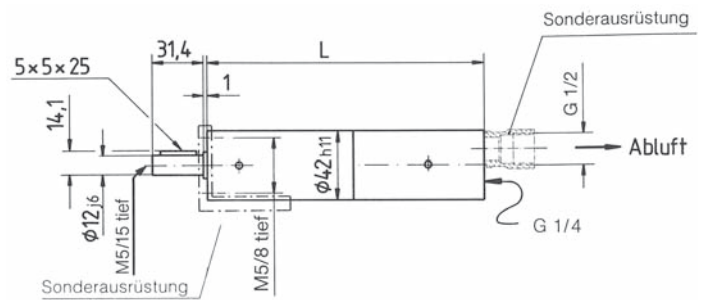
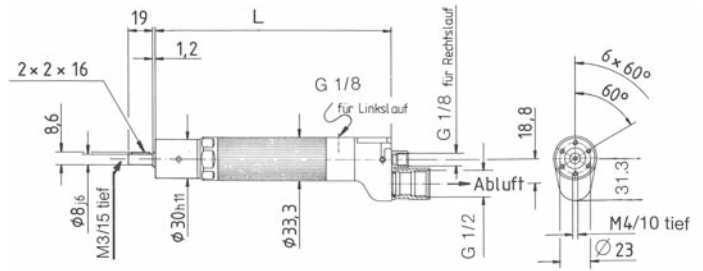
lubrication. It is recommended to equip compressed air lines with filters and lubricators. Install the lubricator as close as possible to the motor.

Radial Piston Motor*

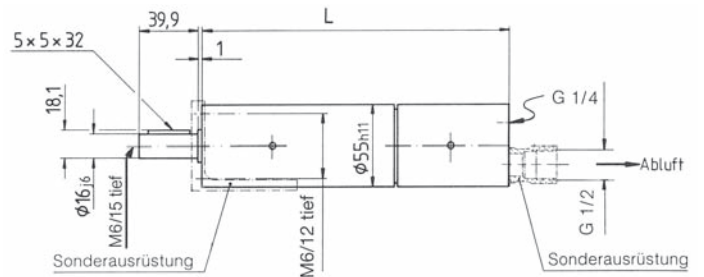
The heavy-duty design makes these motors suitable for continuous operation. The balanced crankshaft is mounted on roller bearings. An oil slinger ring distributes oil to all moving parts of the motor. Oil level and drain plugs are easily accessible.

High torques are an inherent characteristic of compressed air piston motors, a feature that makes them very attractive for applications that require high starting loads. The overlapping of power impulses in radial piston motors permits even torque and full power in both directions of rotation. At least two pistons are always on a power stroke. These motors should be operated under load and horizontally. It is not recommended to operate them at speeds greater than 75% of free speed. The motors operate satisfactorily even in environments with high temperatures up to 200° F (93° C). It is recommended to equip compressed air lines with lubricators. Install the lubricator as close as possible to the motor.

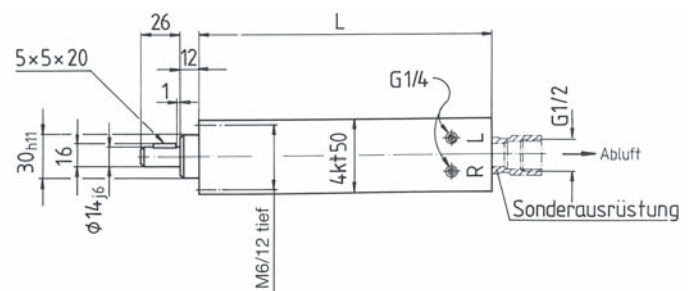
Small Blade Motors



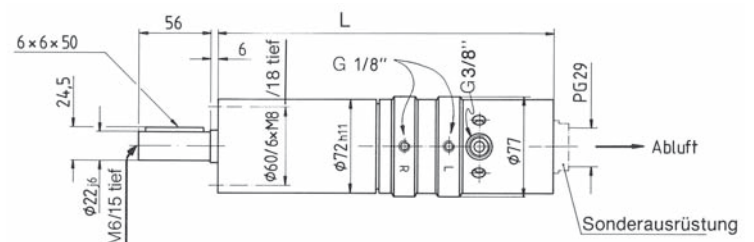
Special equipment: Connection ring for exhaust air Order number 922795
Mounting bracket Order number 930157



Special equipment: Mounting bracket Order number 930157
Exhaust air Order number 922907



Special equipment: Connection ring for exhaust air Order number 922907



Special equipment: Connection ring for exhaust air Order number 922907

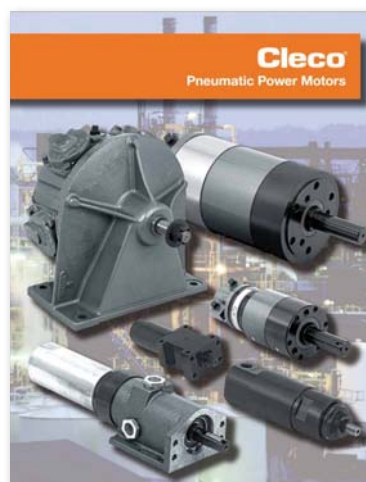
Power Class 0.06–1.10 kW

Highest Power		Speed rpm	Stall Torque Nm	Air Consumption Full Load** m³/min.	Noise level free speed dB(A)	Max. Load Output Drive Spindle		Length mm	Weight kg	Type Series	Order Number
kW	rpm					Radial N	Axial N				
Non-reversible (clockwise rotating)											
0.06	2150	4300	0.6	0.16	67	80	40	171	0.48	8MZ	8MZN502M
0.06	1250	2500	0.9	0.16	67	100	50	171	0.48	8MZ	8MZN503M
0.06	675	1350	1.7	0.16	67	120	60	184	0.53	8MZ	8MZN504M
0.06	400	800	2.8	0.16	67	140	70	184	0.53	8MZ	8MZN505M
0.06	240	480	4.8	0.16	67	170	85	184	0.53	8MZ	8MZN506M
Reversible											
0.06	2150	4300	0.6	0.16	67	80	40	171	0.48	8MZ	8MZR507M
0.06	1250	2500	0.9	0.16	67	100	50	171	0.48	8MZ	8MZR508M
0.06	675	1350	1.7	0.16	67	120	60	184	0.53	8MZ	8MZR509M
0.06	400	800	2.8	0.16	67	140	70	184	0.53	8MZ	8MZR510M
0.06	240	480	4.8	0.16	67	170	85	184	0.53	8MZ	8MZR511M
Reversible											
0.32	2350	4700	2.6	0.41	79	200	100	154	0.75	15MZ	15MZR359M
0.29	1090	2180	5.0	0.41	79	250	125	154	0.75	15MZ	15MZR360M
0.22	725	1450	6.0	0.41	79	290	145	169	0.85	15MZ	15MZR361M
0.22	415	830	10.4	0.41	79	350	175	169	0.85	15MZ	15MZR362M
0.22	230	460	17.6	0.41	79	430	215	169	0.85	15MZ	15MZR363M
Reversible											
0.45	1830	3660	4.7	0.56	77	420	210	215	1.64	25MZ	25MZR149M
0.45	1000	2000	8.6	0.56	77	500	250	215	1.64	25MZ	25MZR151M
0.41	570	1140	13.7	0.56	77	580	290	215	1.68	25MZ	25MZR155M
0.41	325	650	24.2	0.56	77	715	360	215	1.68	25MZ	25MZR157M
0.41	190	380	41.0	0.56	77	840	420	215	1.68	25MZ	25MZR159M
Reversible											
0.38	175	350	42	0.46	79	1050	525	194	1.84	25MZV	25MZVR624M
0.35	125	250	53	0.46	79	1180	590	194	1.85	25MZV	25MZVR625M
Reversible											
1.10	1400	2800	13.0	0.90	77	660	330	237	3.10	35MZ	35MZR385M
1.10	600	1200	32.0	0.90	76	860	430	237	3.10	35MZ	35MZR386M
1.10	300	600	65.0	0.90	76	1100	550	261	3.50	35MZ	35MZR387M
1.10	155	310	130.0	0.90	76	1400	700	261	3.50	35MZ	35MZR388M
Reversible with speed regulation											
0.55	75	150	123	0.80	72	1800	900	261	3.50	35MZ	35MZR389M
0.35	52	104	91	0.75	71	2100	1050	261	3.50	35MZ	35MZR390M
0.08	23	46	40	0.55	70	2500	1250	261	3.50	35MZ	35MZR391M

**Air consumption in unloaded state.

All performance data stated on this page relate to 6 bar inlet air pressure.

You will find the complete range of pneumatic power motors online in the full catalogue SP-104 at www.apexpowertools.eu



Cleco
Pneumatic Power Motors ...

Catalogue: SP-104



Cleco Electrical Assembly Tools Overview

Cleco fastening technology is used worldwide and in all industries. This technology is used in aerospace, automotive, environment, wind energy, agriculture and a great number of different applications in general industry where quality critical requirements are the rule. The complete product portfolio of transducer-based electric tools from the Cleco and DGD brands is used worldwide for safety critical applications in the automotive industry where exact precision and traceability are required. And finally, our range of DC electric tools is used in one of the most demanding environments, aircraft assembly, where "good enough" is never acceptable.

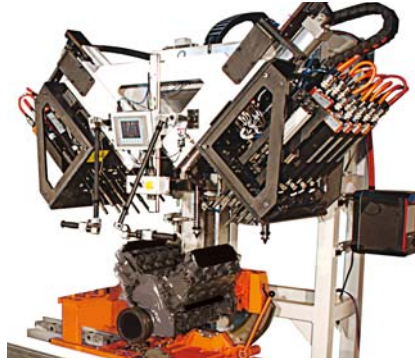
Because of our emphasis on perfection, you can surpass yourself. Our customers view us as strategic partners and not purely as vendors, as we have an unusual focus on com-

plete fastening solutions instead of just on the product. And in the Apex Tool Group we welcome the challenge of market leadership that this approach brings.

The Systems

Cleco's exemplary fastening systems provide unmatched performance, productivity and responsibility in quality and safety critical assembly applications.

Long service life, speed and ergonomics are achieved with the corded Cleco DC electric tools with a complete product range of tool configurations and a range of controller options.



The Cleco LiveWire™ system offers the most cost-effective fastening solution for safety-critical applications available worldwide. The combination of cordless tools with WLAN communication gives the operator the necessary mobility and flexibility for higher productivity and reduces costs due to system damage. The controller, which can manage up to 16 cordless tools, utilises the latest wireless encryption technology and in the process provides unmatched cost savings in industry.

If the cumulative effects of all these components is taken into consideration – the tools, the controllers, the software, the flexibility, the accessories and the support – you can clearly see why Cleco fastening systems set the standards for all DC electric tool systems.

Applications

Accuracy Process control	Safety critical	Electric hand-held nutrunners with transducer	Torque accuracy with traceability
	Quality-critical	Current control tools Pneumatic pulse nutrunners/clutch shut-off	Productivity/quality control
	Application	Solution	Requirements



Durability. Speed.

Cost-effective solution for maximum performance in quality-critical applications.

The electrical assembly tools from Cleco with current control are more mature than the compressed air tools with pneumatic clutch and torque verifier available on the market. The patented current control systems from Cleco impress with higher productivity, more sophisticated error detection and increased flexibility in use.

Our control systems are recognised worldwide as a first-class software interface. And that not only due to their straightforward operation, but also due to the basic programming features, programming graphics and process feedback in real-time. Our latest development ("Auto. Program") takes the guesswork out of programming. Simply enter the torque shut-off value for the product group and the software automatically compiles the program for the production application.



Adjustable angle heads permit flexible orientation.

360°

Unrestricted speed control



Ergonomics.

Why current control instead of pneumatic clutch?

Higher Productivity

- Up to 2 to 3-times faster
- Unrestricted speed control
- Up to 25 % less noise
- Cleaner working environment
- Automatic torque programming
- Proven durability in use

Better Error Detection

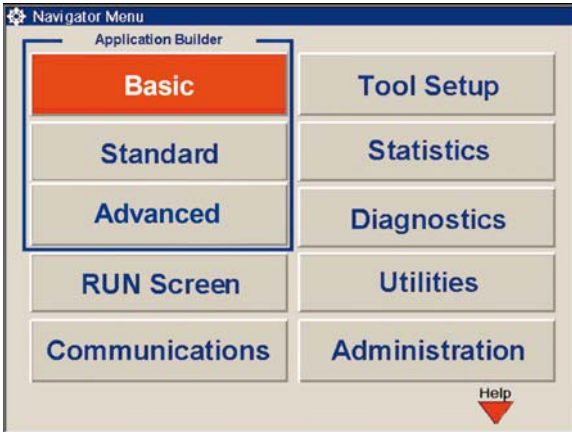
- Counter display with 96 positions
- LED with 9 tools for the operator
- 8 configurable I/O
- Prepared for fieldbus
- Memory for 5,000 tightening stages
- Expanded system diagnostics
- Barcode product group selection

High Process Flexibility

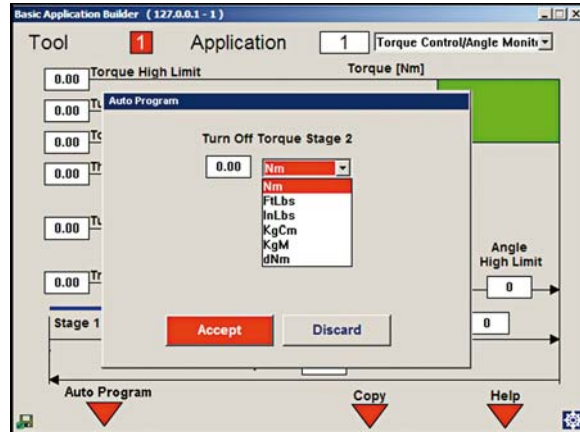
- 255 programmable fastening processes
- 6 configurable stages per process
- Angle of rotation process control/monitoring
- Process control of the fastening process also counter clockwise
- Low maintenance effort – no clutch
- 100 m cable length

Easy to setup: 1-2-3-go!

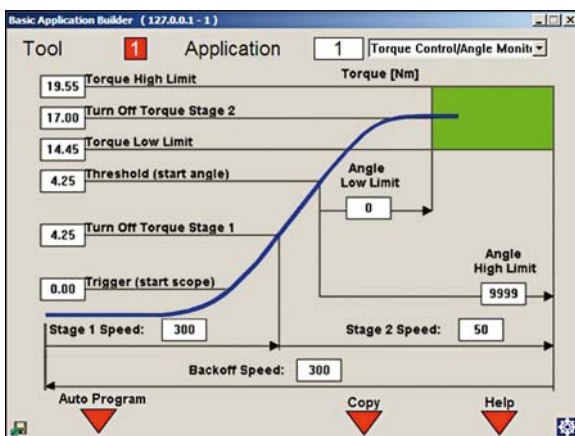
1. Select "Basic" on the menu.



2. Enter the final torque.



3. The tool is programmed automatically



Go! Ready for production.



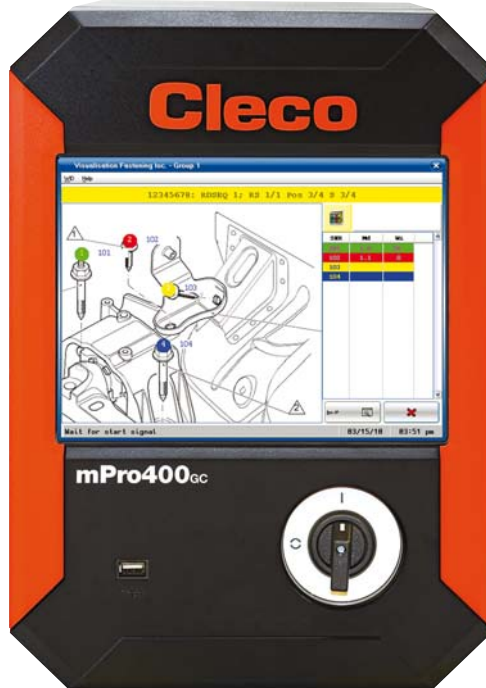
Cleco Global Controller Overview

mPro400GC Global Controller

- Graphic user interface
- Fully programmable
- Local storage of up to 10,000 fastening operations
- LAN support
- Fieldbus options available

Master/primary controller

Secondary controller



MPRO400GC-M



MPRO400GC-P



MPRO400GC-S

mPro400GC-SG Global Controller

The mPro400GC-SG controller provides the same capabilities and functions as the mPro400GC-M controller with the additional benefit of panel mounting.



Model	Description	Tool Compatibility	Weight	Width	Height	Depth
			kg	mm	mm	mm
MPRO400GC-P	Primary	Cleco 18 & 48 Series, Cleco LiveWire, DGD Intelligent Spindle*	13.9	261.62	378.46	327.66
MPRO400GC-S	Secondary	Cleco 18 & 48 Series	12.7	261.62	378.46	327.66
MPRO400GC-M	Master	Cleco LiveWire, DGD Intelligent Spindle*	10.6	261.62	378.46	327.66
MPRO400GC-SG	Panel mounting	Cleco LiveWire, DGD Intelligent Spindle, 1, 2, 3, 4				

*A quotation is necessary to be able to take into account the hardware configuration.

NOTE: 17/47/67 and matrix versions of the 18/48 Series tools require the isolating transformer 544185PT for use with primary/secondary controllers. Mounting panel can be used for various control cabinet solutions.

**Torque Monitoring
mPro400GC-E & mPro400GC-I
Global Controller**



- Single channel
- Economical
- Remote programming
- Local storage of up to 5,000 fastening operations
- LAN support
- Input voltage 115/230VAC
- Connectors:
1x serial
1x TM-COM
1x Ethernet
- Inputs/outputs:
8x 24 V inputs, 8x 24 V outputs



MPRO400GC-E & MPRO400GC-I

All 67 Series tools require an isolating transformer (544185PT) for operation with a Cleco Global Controller.



Model	Description	Tool Compatibility	Weight	Width	Height	Depth
			kg	mm	mm	mm
MPro400GC-E	Economy	Cleco 18 & 48 E_E Series*	14.8	261.62	378.46	327.66
MPro400GC-I	Current shutdown	Cleco 18 & 48 C_E Series**	14.8	261.62	378.46	327.66

*NOTE: 17/47/67 and matrix versions of the 18/48 Series tools require the isolating transformer 544185PT for use

**NOTE: 48 Series tools require 230 VAC.

STANDARD EQUIPMENT:
TM-COM remote programming software, null modem serial cable and crossover Ethernet cable

Cleco Corded Right Angle Nutrunners with Transducer

Right Angle Series

Torque range 2 - 230 Nm Bolt size M5 - M16

- Brushless motor
- High-resolution resolver
- Integrated transducer
- Memory chip with all relevant tool data



XX	E	A	E	XXX	XXX	X
Motor Supply 18, 48 E - Electrical		Connector E Air-LB		Locking Pin locking B - Ball locking		Output Drive AL2 - 1/4" sq. dr. AM4 - 1/2" sq. dr. AL3 - 3/8" sq. dr. AH4 - 1/2" sq. dr. AM3 - 3/8" sq. dr. MH4 - 1/2" sq. dr. AX6 - 3/4" sq. dr.
Tool Type A - Right angle				Max. Torque (Nm) Under 60 Nm, rounded up to next 1 Nm. Above 60 Nm, rounded up to next 5 Nm.		

Model Number	Torque Range	Speed	Weight*	Output Drive	Length	Angle Head	
						Side to Centre	Height
	Nm	rpm	kg		mm	mm	mm
18EAE08AL2	2 - 8	3000	1.3	1/4"	345	13	36
18EAE15AM3	4 - 15	1300	1.5	3/8"	376	15	41
18EAE22AM3	5 - 22	920	1.5	3/8"	376	15	41
18EAE28AM3	6 - 28	700	1.5	3/8"	376	15	41
48EAE15AL3	3 - 15	2855	1.7	3/8"	398	15	41
48EAE28AL3	6 - 28	1300	1.9	3/8"	410	15	41
48EAE41AM3	9 - 41	1090	2.0	3/8"	440	19	48
48EAE58AM3	12 - 58	770	2.0	3/8"	440	19	48
48EAE58AM4	12 - 58	770	2.0	1/2"	440	19	48
48EAE90AH4	18 - 87	515	3.0	1/2"	470	21	58
48EAE105AH4	21 - 104	340	3.0	1/2"	470	21	58
48EAE135MH4	27 - 133	265	3.3	1/2"	485	24	61
48EAE175AX6	36 - 176	190	4.6	3/4"	549	27	69
48EAE230AX6	46 - 230	145	4.6	3/4"	549	27	69

*Weights do not include tool cable or reaction bar.

GENERAL:
All tools must be used with Apex Tool Group approved cables and controllers.

STANDARD EQUIPMENT:
Air-LB connector. Ball locking optional
Tool available with matrix connector on request.

OPTIONAL:
Standard tool cable 961259-XX, RA rotating cable 961260-XX,
straight rotating cable 961251-XX, extension cable 961249-XX.
Additional accessories: See catalogue SP-1020.