

Tensor ES with Power Focus 600

Going electric is easy – it simply works!



Sustainable Productivity

Atlas Copco

Going electric is easy!

Combined, Atlas Copco's Tensor ES with Power Focus 600 system and the new, ground-breaking TurboTight® strategy take productivity to an entirely new level for electric tools. Setting up and using an electric system has never been easier. And, by switching from pneumatic tools, you can reduce your energy consumption by up to 85%.

Unbelievable but true – we call it easy transformation!

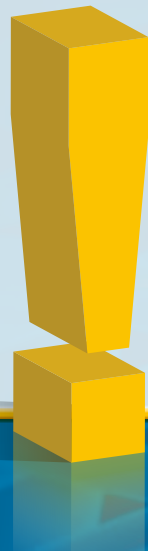
Are these factors essential for your quality critical assembly?

- The capability to tighten joints correctly: for quality critical assembly tightening accuracy should be within $\pm 7.5\%$ over six sigma.
- A lean and efficient workstation.
- Customized ergonomics provided by operator adjustable equipment.
- Reduced energy consumption.



If so, Tensor ES with Power Focus 600 is the ideal solution for you!

- The features of this system translate into enhanced quality, increased productivity, better ergonomics and an overall sustainable process.
- Our key aim is to meet your needs for improved quality critical assembly and increase the total value of ownership.





The brain

Think of the tightening system as a human being and the brain is the Intelligent Application Module (IAM).

The hand

The Tensor ES tool becomes the operator's extended arm.

The heart

The Power Focus 600 controller provides the power to the system and can be compared to the heart.

Intelligent Application Module

The brain

The Intelligent Application Module (IAM) comes in two versions with different levels of functionality: Joint Control and Station control. The module contains the software, all configuration parameters and tightening data.



Easy Set the target torque and start to tighten – the system will solve the rest. Upgrade controllers by simply exchanging the IAM.

Economic and efficient Less reworking and scrapping, and reduced warranty costs. Multi-torque capability replaces up to 16 conventional tools. TurboTight® strategy gives the high speed of air tools, with the accuracy and control of an electric tool!

Error proofing With complete Station control, seamless integration with error proofing modules enables you to extend the tightening operation into a first quality check station.

Ergonomic With the low reaction force and clutch feeling, tightening with TurboTight® is easy on the operator.

Two levels of functionality

IAM Joint control

- Tightening strategies: Quick Step, Two Step, Three Step and Rotate.
- 1 Pset.
- Batch count.
- 30 results (torque, status OK/NOK and NOK reason).
- View torque-time trace.
- Easy software upgrade.
- Local USB download of results/events/configuration.
- Local USB upload of configuration and software upgrade.
- Configurable I/O.

IAM Station control

- Tightening strategies: TurboTight®, Quick Step, Two Step, Three Step and Rotate.
- 16 Psets.
- Batch sequence.
- 1,000 results (torque, status OK/NOK and NOK reason).
- Error-proofing modules compatible with QIF accessories.
- Barcode reader compatibility for sequence and Pset selection.
- Remote Ethernet download of configuration.
- Remote Ethernet upload of configuration and SW upgrade.



TurboTight®: A fast, energy saving and easy-to-configure tightening strategy with only two parameters. Ergonomic with a clutch feel.

Easy controller software upgrade: Simply load a new, second version to the IAM via USB or PC and activate it. The first version is still available in the IAM.

Batch sequence: Enables configuration of a sequence of batches when working with different Psets.

Power Focus 600

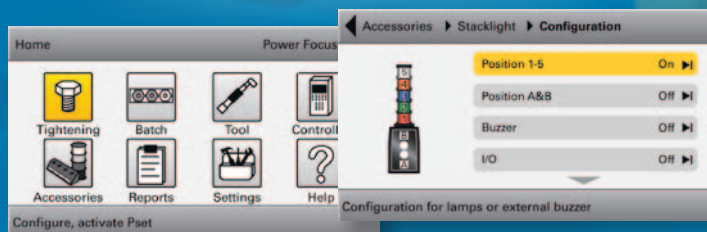
The heart

The Power Focus 600 controller provides the power to the system and can be symbolized by the heart pulsating in a human body. It comes in one single hardware version regardless of what tool model or functionality level is used.



Features

- Intuitive HMI with new configuration concept
- Web-based programming, browse into the controller, no external software needed.
- Optimum housing dimensions, 45% smaller than previous generation
- High definition color screen and user-friendly keypad
- Easy access from front panel and smart support handle
- Guided tool cable connector
- Digital I/Os (4 in, 4 out)
- I/O bus for error-proofing modules
- Auxiliary power out
- Factory ports: high speed USB and Ethernet
- Service ports: high speed USB and Ethernet (incl. DHCP server)
- IP54 prepared by adding one optional accessory



Easy Set up and run a new system from the box in minutes. Computer software is no longer required. Intuitive interfaces enable real-time analysis and fast reaction if needed.

Economic and efficient Same controller hardware regardless of tool model. Powerful industrial design gives a reliable process to maximize uptime and speed up your tightening operations.

Ergonomic Both hardware and software is intuitive, giving clear operator feedback on the screen.



Tensor ES

The hand



The Tensor ES electric nutrunner has received the prestigious red dot award for product design. The Power Focus 6-Series of controllers was awarded a red dot honourable mention.

The Tensor ES tool is the operator's extended arm, making it possible to tighten screws and nuts correctly in assembly operations. The tool is currently available in angle and straight executions, ranging from 2 to 100 Nm.

Features

- Torque transducer with an accuracy of $\pm 7.5\%$ over six sigma
- Robust, sealed design, e.g., one single extruded aluminum body protecting internal components from dust and oil
- New durable motor with higher speeds
- Engineered in modules with component commonality
- Very clear LEDs visible through 360°
- Hot swap



Easy No need to tune in torque parameters. The same Pset can be used regardless of joint characteristics.

Economic and efficient Together, the fast Tensor motor and the powerful controller enable the tools to be used in high performance applications. Stitching and quick hot swap also help maximize productivity.

Energy saving No more compressors and inefficient air installations with costly air leakages. Electrically powered tools lower your energy consumption by up to 85% compared to pneumatic tools!

Error proofing The torque transducer and spiral angle gears give accurate and consistent torque results, not calculated! The visual LEDs contribute to operator guidance for a lean process.

Ergonomic The tool design feels great in the hand and offers intuitive use for the operator. Tensor ES also has low noise and vibration levels.

Tensor ES

	Square drive	Torque range		Speed	Weight		Length	CS distance		
Model	in	Nm	ft lb	r/min	kg	lb	mm	mm	Spline/ Mounting	Ordering No
Angle screwdrivers with lever start										
ETV ES21-04-06	1/4	1.6-4.5	1.2-3.3	1909	0.85	1.9	284	9.5	-	8436 0120 04
ETV ES21-07-06	1/4	2.8-7	2.1-5.2	1147	0.85	1.9	284	9.5	-	8436 0120 07
ETV ES21-12-06	1/4	4.8-12	3.5-8.9	718	0.95	2.1	304	11	-	8436 0120 12
Straight screwdrivers with push-to-start										
ETD ES21-02-I06-PS	-	0.8-2	0.6-1.5	4471	0.75	1.7	267	19.5	-	8436 0220 02
ETD ES21-04-I06-PS	-	1.6-4.5	1.2-3.3	1909	0.8	1.8	267	19.5	-	8436 0220 04
ETD ES21-07-I06-PS	-	2.8-7	2.1-5.2	1147	0.8	1.8	267	19.5	-	8436 0220 07
ETD ES21-12-I06-PS	-	4.8-12	3.5-8.9	745	0.8	1.8	267	19.5	-	8436 0220 12
Angle nutrunners with lever start										
ETV ES61-25-10	3/8	10-25	7.4-18.4	1378	1.8	4.0	419	14	-	8436 0160 25
ETV ES61-30-10	3/8	12-30	8.9-22.1	1160	1.8	4.0	421	15.5	-	8436 0160 30
ETV ES61-40-10	3/8	16-40	11.8-29.5	1153	1.9	4.2	441	18	-	8436 0160 40
ETV ES61-50-10	3/8	20-50	14.8-36.9	692	1.9	4.2	441	18	-	8436 0160 50
ETV ES61-70-13	1/2	28-70	20.7-51.6	439	3.1	6.8	499	20	-	8436 0160 70
ETV ES61-100-13	1/2	40-100	29.5-73.8	370	3.15	6.9	505	22.5	-	8436 0160 10
Straight nutrunners										
ETD ES61-18-10-T25	3/8	7.2-18	5.3-13.3	2129	1.85	4.1	456	23	2/2	8436 0260 18
ETD ES61-25-10-T25	3/8	10-25	7.4-18.4	1793	1.85	4.1	456	23	2/2	8436 0260 25
ETD ES61-30-10-T25	3/8	12-30	8.9-22.1	1077	1.85	4.1	456	23	2/2	8436 0260 30
ETD ES61-50-13-T25	1/2	20-50	14.8-36.9	679	3.05	6.7	521	29	3/5	8436 0260 50

For all models in the table declared noise and vibration emissions according to ISO 15744 and ISO 28927-2 are: sound pressure level <70 dB(A) and vibrations <2.5 m/s².

Tensor ES cables

Model	Ordering No
Round cables for ES21 tools	
2 m cable	4220 4204 02
3 m cable	4220 4204 03
5 m cable	4220 4204 05
7 m cable	4220 4204 07
10 m cable	4220 4204 10
15 m cable	4220 4204 15
Flat cables for ES61 tools	
3 m cable	4220 4339 03
5 m cable	4220 4339 05
7 m cable	4220 4339 07
10 m cable	4220 4339 10
15 m cable	4220 4339 15
Extension cables for all tools	
3 m cable	4220 4393 03
5 m cable	4220 4393 05
10 m cable	4220 4393 10
15 m cable	4220 4393 15
25 m cable	4220 4393 25

Drive unit, IAMs and error proofing modules

Model	Ordering No
Drive unit and IAMs	
Power Focus 600	8436 2700 01
IAM Joint Control	8436 0900 01
IAM Station control	8436 0900 05
Error proofing modules	
Stacklight ESL-04 standard	8433 0570 13
Selector 4	8433 0610 04
Selector 8	8433 0610 08
I/O Expander open	8433 0564 39
I/O Expander sealed	8433 0564 45
Operator panel Advanced	8433 0565 00
Operator panel Basic	8433 0565 10

