

# QUALITY INTEGRATED FASTENING



# Introduction – Quality Integrated Fastening

## Atlas Copco's Station Solutions reduce cost and ensure quality

*As part of Atlas Copco's Quality Integrated Fastening (QIF) concept we offer complete error proofing stations. These are created by combining our advanced tightening equipment with standard Atlas Copco hardware and software components. Integrated error-proofing assembly stations help you avoid costly reworking, raise productivity and ensure quality on your production line.*

Atlas Copco is one of the few suppliers able to offer a range of products comprehensive enough to build a fully integrated assembly station. QIF error-proofing stations offer the following benefits:

- Increased product quality.
- Standard modules reduce project and set-up time.
- Fast line re-balancing with standard interfaces.
- Higher productivity due to improved operator guidance.
- Full after sales support from Atlas Copco.

Atlas Copco is one of a few supplier able to offer such a large range of products to build a fully integrated assembly station.

### **FAST, EASY SET-UP**

Most QIF products can easily be connected to Power Focus and Pulsor Focus using one I/O Bus cable, and to PowerMACS using one MACS I/O cable. They can be configured using standard Atlas Copco software ToolsTalk. This user-friendly PC software makes programming very simple.

A key factor that makes QIF products so well accepted by users is their logical and intuitive set-up. By combining QIF products with ToolsTalk Logic Configurator, it is possible to make logical diagrams with inputs and outputs that further enhance the flexibility of the products.



## A complete offering

### FEEDBACK

Higher quality can be achieved by giving audio and/or visual feedback about the assembly process to the operators. Time and costs can be saved by reducing reworking and avoiding faulty products leaving the production line. For feedback use Atlas Copco's Stacklights.



ESL-04 Compact and ESL-04 Standard

### VARIANCE SUPPORT

Productive assembly lines demand efficient operators. These should be supported with appropriate tools providing feedback for all actions. This will save time changing program settings and when performing reworkings in station. For variance support use Atlas Copco's Selectors and Operator Panels.



Selector 4, selector for Large Sockets and Operator Panel Basic

### OPERATOR GUIDANCE

Flexible assembly lines demand different products to be assembled at the same station. It is possible to reduce the number of decisions taken by the operator by providing direct instructions on a screen with photos and texts of the assembly process. For operator guidance use Atlas Copco's HMI's (Human Machine Interface).



MiniDisplay 2

### PROCESS MONITORING

Storing production data for documentation and further analysis is a key factor for traceability. Process improvements can be made by analyzing data. This contributes to increasing quality and boosting productivity by minimizing the number of recalls. For process monitoring use Atlas Copco's ToolsNet 8.



ComNode 3

## REDUCING THE COST OF PERIPHERALS



## SELECTORS

Socket and bit selectors minimize the risk of errors relating to product diversity by automatically selecting correct torque according to the socket or bit selected.

## STACKLIGHTS

Lamps and a buzzer give clear feedback and a key switch can be used to acknowledge errors. This arrangement enables you to detect errors at the workstation and correct them in station instead of further down the line.

## OPERATOR PANELS

Command buttons and integrated lamps provide a highly effective operator interface and enable manual selection of various program settings.

## HMI'S

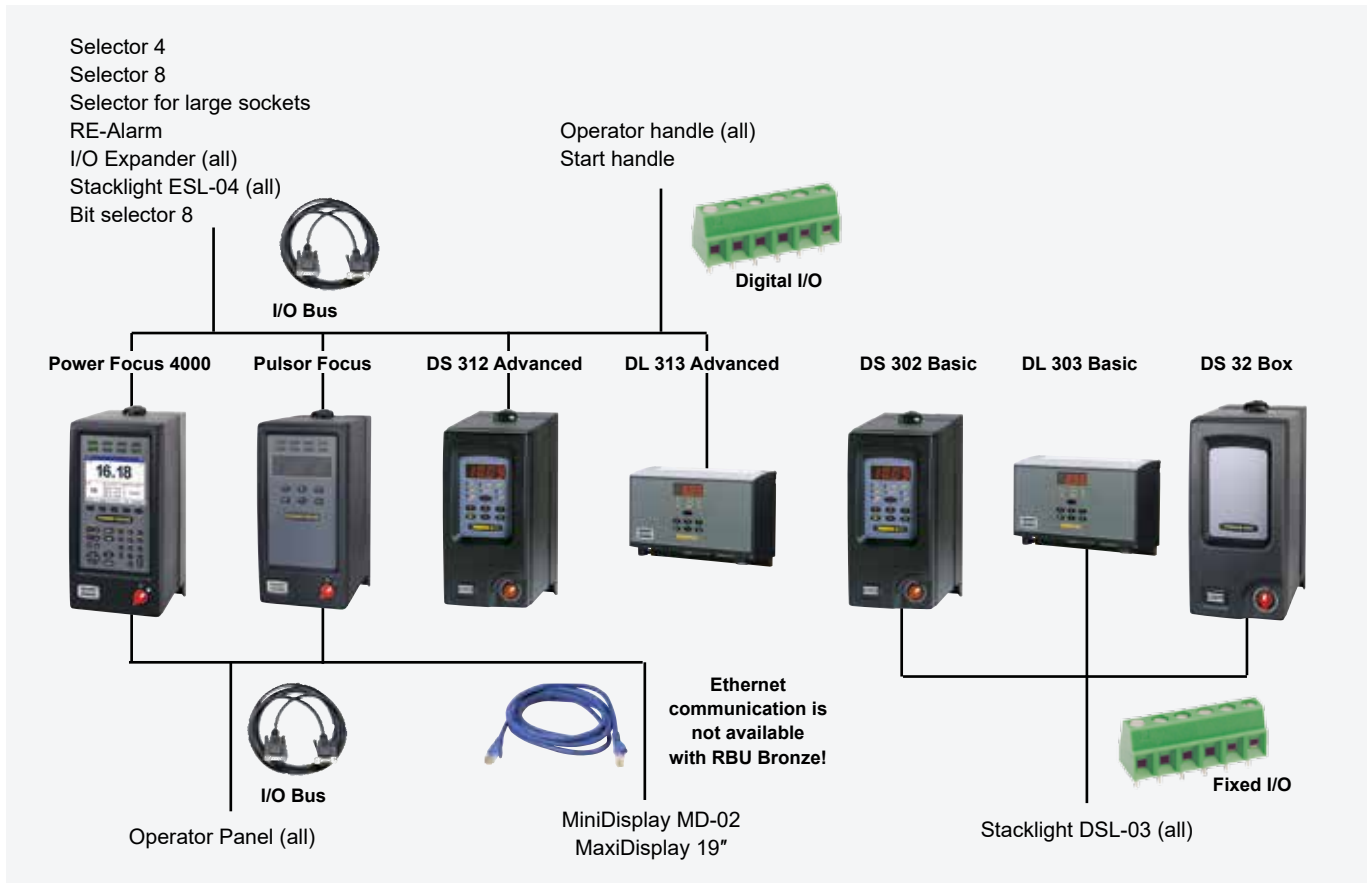
Mini display with Operator Guidance software shows photo of the product on the screen, clearly indicating joints to be tightened and giving build instructions.

## WEAFLEX

WEAFlex is a Wireless Ethernet Adapter (WEA) supporting Wireless LAN 802.11b/g interface. Powered by the controller (24vDC), WEAFlex converts the Ethernet port to a Wireless port. This enables communication with ToolsNet for data collection, ToolsTalk for remote programming without USB or Serial cables, production systems or just to exchange information with another controller for a cell job or synchronization.



## MODULARITY



# Quality Integrated Fastening

# Station Hardware

Model	Ordering No.
<b>Remote Start</b>	
Selector 4	8433 0610 04
Selector 8	8433 0610 08
Selector for large sockets	8433 0610 44
Rotary selector	8433 0606 15
Bit selector 8	8433 0612 08
double <sup>a</sup>	4222 0933 92
single <sup>b</sup>	4222 0933 91
<sup>a</sup> Only compatible with Bit selector.	
<sup>b</sup> Only compatible with Socket selector 4 and 8.	
<b>I/O Expanders</b>	
Open	8433 0564 39
Sealed	8433 0564 45
<b>Stacklights</b>	
ESL-04 Standard	8433 0570 13
Rotating red	8433 0570 30
Rotating yellow	8433 0570 35
Siren	8433 0570 40
Compact	8433 0570 16
DSL-03 with push button	8433 0570 10
with blanking plugs	8433 0570 11
<b>Operator panel</b>	
Advanced	8433 0565 00
Basic	8433 0565 10
<b>HMI's (Human Machine Interface)</b>	
MiniDisplay -2 6.5", incl. Operator Guidance	8435 3071 00
MaxiDisplay 3 (19") excl. Operator Guidance	8435 3070 20
<b>ComNode 3</b>	
ComNode 3 Touch (15")	8433 2712 00
<b>Communication</b>	
WEAFlex - LAN	8433 1010 00
<b>Remote Start</b>	
Operator handle (ball joint/handle)	
- front/plastic	8435 3030 00
- front/rubber	8435 3030 01
- rear/plastic	8435 3030 02
- rear/rubber	8435 3030 03
Start handle	4222 1391 91
<b>Cables</b>	
<b>Accessory cables</b>	
I/O bus cable 0.5 m	4222 0917 00
1 m	4222 0917 01
3 m	4222 0917 03
5 m	4222 0917 05
10 m	4222 0917 10
15 m	4222 0917 15
I/O Termination plug	4222 0443 00
<b>M12-4 pin</b>	
Female - Open end 5 m	4243 0166 05
Male - Female 5 m	4243 0167 05
10 m	4243 0167 10
15 m	4243 0167 15
<b>Cables for WEAFlex (1 m)</b>	
Power24vDC, M12-5 pin	4243 0286 80
EthernetRJ45, M12-4 pin	4222 1540 01

## TLS

Model	Ordering No.
<b>Tool Tags</b>	
TLS ST Tag 32 U1	8433 1030 10
TLS ST Tag 61-S U1	8433 1030 20
TLS ST Tag 61-L U1	8433 1030 30
TLS ST Tag 81-S U1	8433 1030 40
TLS ST Tag 81-L U1	8433 1030 50
TLS ST Tag 101 U1	8433 1030 60
<b>Product Tags (package of 5 units)</b>	
TLS Compact Tag U1-63	8433 1026 05
TLS Power Tag U1-65	8433 1025 05
TLS GPS TAG U1-65	8433 1024 05



WEAFlex



Selector 4



Selector 8



Selector for large socket



Rotary selector



Operator handle



Start handle



I/O expander sealed



Stacklight DSL-03



Stacklight ESL-04 Compact



Operator panel Advanced

# Quality Integrated Fastening

# Station Software

ToolsNet 8 is a data collection and process improvement software application for use with Power Focus, Pulsor Focus, PowerMACS and STWrench with support for other controllers over ToolsNet open protocol. Combined, these products provide total control of the assembly process, providing a platform for quality improvements. Historical data, statistics and capability indexes can be accessed at any time via a standard web browser such as Microsoft Internet Explorer. ToolsNet is the complete assembly process improvement tool.

## **TRACEABILITY MINIMIZES RECALL COSTS**

The production can be followed in real-time through the dashboard or monitored through different reports such as the Result List report or Product List report which provides information of every tightening related to a specified period or product. In the event of warranty recalls, the result database provides access to critical information which can easily minimize the extent of any recall leading to an overnight payback on your investment.



## **THE RIGHT SOLUTION FOR YOUR NEEDS**

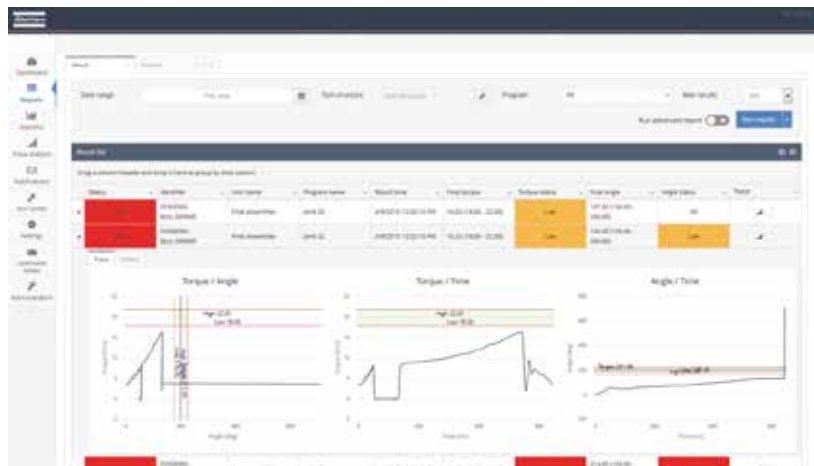
ToolsNet 8 is divided in three different packages to cover different needs.

### **REPORTS**

Take the first step in traceability by collecting all tightening results and storing them in a secure database system. Legal documentation and process improvements can be handled by running several pre-formatted reports specially designed to save user time and effort.

### **ALERT**

Extend the usage of available information by collecting all production events as they occur on the assembly line, in real time. Generate reports to identify events that are happening often and trigger emails to the right personnel based on event distribution rules you create. Be always on the alert for quality variation and workstations that require preventative or corrective tool maintenance.



### **ANALYSIS**

The analysis package adds advanced statistical capabilities making it possible to search for variations when it comes to large amounts of production data. Another feature that is added with the analysis

package is tool center which makes it possible to track detailed information about the tools that are used in production ensuring that they are serviced and calibrated on time.

Software	Ordering No.	Upgrade Ordering No.
<b>ToolsNet 8 - Reports</b>		
5 Spindle license	8092 1710 05	8092 1810 05
10 Spindle license	8092 1710 10	8092 1810 10
25 Spindle license	8092 1710 25	8092 1810 25
50 Spindle license	8092 1710 50	8092 1810 50
75 Spindle license	8092 1710 75	8092 1810 75
125 Spindle license	8092 1710 80	8092 1810 80
200 Spindle license	8092 1710 85	8092 1810 85
350 Spindle license	8092 1710 90	8092 1810 90
500 Spindle license	8092 1710 95	8092 1810 95
Plant Spindle license	8092 1710 00	8092 1810 00
<b>ToolsNet 8 - Alerts</b>		
5 Spindle license	8092 1711 05	8092 1811 05
10 Spindle license	8092 1711 10	8092 1811 10
25 Spindle license	8092 1711 25	8092 1811 25
50 Spindle license	8092 1711 50	8092 1811 50
75 Spindle license	8092 1711 75	8092 1811 75
125 Spindle license	8092 1711 80	8092 1811 80
200 Spindle license	8092 1711 85	8092 1811 85
350 Spindle license	8092 1711 90	8092 1811 90
500 Spindle license	8092 1711 95	8092 1811 95
Plant Spindle license	8092 1711 00	8092 1811 00
<b>ToolsNet 8 - Analysis</b>		
5 Spindle license	8092 1712 05	8092 1812 05
10 Spindle license	8092 1712 10	8092 1812 10
25 Spindle license	8092 1712 25	8092 1812 25
50 Spindle license	8092 1712 50	8092 1812 50
75 Spindle license	8092 1712 75	8092 1812 75
125 Spindle license	8092 1712 80	8092 1812 80
200 Spindle license	8092 1712 85	8092 1812 85
350 Spindle license	8092 1712 90	8092 1812 90
500 Spindle license	8092 1712 95	8092 1812 95
Plant Spindle license	8092 1712 00	8092 1812 00
<b>Operator guidance</b>		
1 User license	8092 1185 01	

<sup>1</sup> ToolsNet 4000 Reports is required.

<sup>2</sup> ToolsNet 4000 Alerts is required.

<sup>3</sup> ToolsNet 4000 History is required.

**NOTE:** Check for availability on your market.