

About Pneumatic Screwdrivers and Nutrunners for Automation

Components are designed to insure a long life and reliability, which results in high productivity, reduced maintenance and repair costs.

| |
|--|
| 20MC |
| MOTRIX |
| Newly conceived air motor ensures high performances and maximum torque at low air feed pressure. |
| TRACS Clutch System |
| The innovative torque control system ensures a very high torque repeatability. i.e. A very low mean shift value also in the presence of variability of the joint softness level. This system maintains same torque values for hundreds of thousands of cycles. |

* Patented TRACS2 and TRACS3 (Torque Repeatability and Accuracy Control System) torque control systems: they guarantee high torque repeatability and vibration levels below 2.5 m/s.

Innovative systems designed to pay even more attention to the environment and its safeguard.

Reliability

Fiam air screwdrivers and nutrunners for automation are not just standard screwdrivers modified to be installed on a machine. Instead, they are solutions specifically and accurately designed to be used in the industrial automation field.

The main features of automation applications are:

- Robust thrust bearings to stand up to the fast and continuous thrusts of the fastening slides which often happens in the automatic production cycles.
- Ideal external geometries for fixtured application.
- Exhaust can be easily piped away in order to reduce noise level and use oil separator filters.
- Ported signal to interface with line PLC or Fiam TOM error-proofing system.

Made in Italy: designed and manufactured by Fiam. They guarantee reliable operation in every working condition.

High resistance: manufactured with high quality materials.

High performance: the reduction gear system guarantees maximum output, long lifetime of the kinematic chain and reduced noise level.

Maximum reliability: no accuracy loss in vertical or horizontal axis.

Ecology

The advanced technological design permits considerable decrease of compressed air consumption, without affecting tool performance.

Threaded exhaust ports allow use of separator filters for conveying the air exhaust and eliminate the emission of oil fog into working environment.

All the components are easy to dispose of since they are built with recyclable materials.

Eco-friendly packaging.



About Pneumatic Screwdrivers and Nutrunners for Automation

Innovative systems improve the efficiency of the production cycle.



| 20MC |
|---|
| Innovative design principles guarantee a higher rotating speed of the new air motor at the same tightening torque, with evident reduction of tightening cycle time. |
| TRACS2: The high accuracy of the clutch greatly reduces the need for additional quality control at the end of the assembly process, thus increasing productivity. |
| Accessory drive with quick change chuck: it favors easier and safer accessory replacement (the spring load effectively prevents incidental bit unlocking). |

Enhanced tool performance in ergonomics and operator's safety.

Productivity

Reduced weight and dimensions: can be easily installed on machines, also with reduced room available.

Axial compensator: an accessory to eliminate any difference of screw height on the component. Facilitates entry of screw and reduces axial thrust on the motor's mechanical components, protecting the internal components and guaranteeing their long life.

For models without clutch, it is possible to easily adjust the torque, speed and direction by using simple control methods.

Available in reversible and non reversible models. Reversible motors are equipped with two entrances for compressed air that alternate the input and output of the compressed air.

Models with air shut-off can be manufactured with clutches for left hand torque.

Low revolution nutrunners available: suitable for different applications and with critical joints.

Customized solutions: for joint type and application.

There are two types of starting systems:

- **Push to start** is a simple and economical system for only right-hand rotation motors. The motor starts automatically when a push of about 2-3 kg (4.4-6.6 lbs.) is applied directly to it.
- **Direct start from a remote control signal** is achieved by the application of a 3-way pneumatic control valve (on right hand rotation motors), or 5-way control valve (on reversible motors). Direct start is recommended for multiple assembly applications where the operator's effort has to be reduced.

Ergonomics

Reduced noise level: the effective silencing systems guarantee a reduced noise level caused by air exhaust. Advanced designs have greatly reduced internal noise and vibrations.

No risk of overheating: in heavy duty conditions. The performance is unchanged regardless of repetitive use, stops/starts or change of direction.

Extremely reduced weight and dimensions: compact design allows for mounting in most assembly equipment.

Section 1: Product Specifications

Pneumatic Shut-Off Clutch

| Model Number | Torque Range | | Idle Speed RPM | Starting System Type | Reversibility Type | Weight lb. | Air Consumption CFM | Accessories Drive | Noise Level* dBA |
|--------------|----------------|-----------|-------------------|-------------------------|-----------------------|---------------|------------------------|----------------------|---------------------|
| | lbf.in | N.m | | | | | | | |
| 20MC2A | 3.54 - 22.125 | 0.4 - 2.5 | 2700 | | ↻ | 1.65 | 11.65 | 1/4" Hex | 75 |
| 20MC3A | 3.54 - 26.55 | 0.4 - 3 | 1400 | | ↻ | 1.69 | 11.65 | 1/4" Hex | 75 |
| 20MC4A | 3.54 - 35.4 | 0.4 - 4 | 1000 | | ↻ | 1.69 | 11.65 | 1/4" Hex | 75 |
| 20MC5A | 3.54 - 44.25 | 0.4 - 5 | 650 | | ↻ | 1.69 | 11.65 | 1/4" Hex | 75 |
| MCSEZ4A | 7.965 - 35.4 | 0.9 - 4 | 2500 | | ↻ | 2.05 | 19.07 | 1/4" Hex | 76 |
| MCSE5A | 22.125 - 44.25 | 2.5 - 5 | 1500 | | ↻ | 2.16 | 19.07 | 1/4" Hex | 76 |
| MCSE8A | 22.125 - 70.8 | 2.5 - 8 | 1000 | | ↻ | 2.16 | 19.07 | 1/4" Hex | 76 |
| MCSE10A | 22.125 - 88.5 | 2.5 - 10 | 500 | | ↻ | 2.16 | 19.07 | 1/4" Hex | 76 |
| MCY9A | 61.95 - 159.3 | 7 - 18 | 800 | | ↻ | 3.3 | 21.19 | 1/4" Hex | 79 |
| MCY11A | 61.95 - 212.4 | 7 - 24 | 550 | | ↻ | 3.3 | 21.19 | 1/4" Hex | 79 |
| MCG25A1 | 106.2 - 221.25 | 12 - 25 | 600 | | ↻ | 4.84 | 27.55 | 3/8" Square | 79 |
| MCG40A1 | 159.3 - 354 | 18 - 40 | 450 | | ↻ | 4.84 | 27.55 | 3/8" Square | 79 |
| 20MCS2A | 3.54 - 22.125 | 0.4 - 2.5 | 2700 | ↓ | ↻ | 1.65 | 11.65 | 1/4" Hex | 75 |
| 20MCS3A | 3.54 - 26.55 | 0.4 - 3 | 1400 | ↓ | ↻ | 1.69 | 11.65 | 1/4" Hex | 75 |
| 20MCS4A | 3.54 - 35.4 | 0.4 - 4 | 1000 | ↓ | ↻ | 1.69 | 11.65 | 1/4" Hex | 75 |
| 20MCS5A | 3.54 - 44.25 | 0.4 - 5 | 650 | ↓ | ↻ | 1.69 | 11.65 | 1/4" Hex | 75 |
| MSCSEZ4A | 7.965 - 35.4 | 0.9 - 4 | 2500 | ↓ | ↻ | 2.00 | 19.07 | 1/4" Hex | 76 |
| MSCSE5A | 22.125 - 44.25 | 2.5 - 5 | 1500 | ↓ | ↻ | 2.18 | 19.07 | 1/4" Hex | 76 |
| MSCSE8A | 22.125 - 70.8 | 2.5 - 8 | 1000 | ↓ | ↻ | 2.18 | 19.07 | 1/4" Hex | 76 |
| MSCSE10A | 22.125 - 88.5 | 2.5 - 10 | 500 | ↓ | ↻ | 2.18 | 19.07 | 1/4" Hex | 76 |
| MSCY9A | 61.95 - 159.3 | 7 - 18 | 800 | ↓ | ↻ | 3.3 | 21.19 | 1/4" Hex | 79 |
| MSCY11A | 61.95 - 212.4 | 7 - 24 | 550 | ↓ | ↻ | 3.3 | 21.19 | 1/4" Hex | 79 |
| 20MC2RA | 3.54 - 22.125 | 0.4 - 2.5 | 2700 | | ↻ | 1.67 | 11.65 | 1/4" Hex | 77 |
| 20MC3RA | 3.54 - 26.55 | 0.4 - 3 | 1400 | | ↻ | 1.72 | 11.65 | 1/4" Hex | 77 |
| 20MC4RA | 3.54 - 35.4 | 0.4 - 4 | 1000 | | ↻ | 1.72 | 11.65 | 1/4" Hex | 77 |
| 20MC5RA | 3.54 - 44.25 | 0.4 - 5 | 650 | | ↻ | 1.72 | 11.65 | 1/4" Hex | 77 |
| MCSEZ4RA | 7.965 - 35.4 | 0.9 - 4 | 2500 | | ↻ | 2.07 | 19.07 | 1/4" Hex | 78 |
| MCSE4RA | 22.125 - 44.25 | 2.5 - 5 | 1500 | | ↻ | 2.18 | 19.07 | 1/4" Hex | 78 |
| MCSE8RA | 22.125 - 70.8 | 2.5 - 8 | 1000 | | ↻ | 2.18 | 19.07 | 1/4" Hex | 78 |
| MCSE10RA | 22.125 - 88.5 | 2.5 - 10 | 500 | | ↻ | 2.18 | 19.07 | 1/4" Hex | 78 |
| MCY9RA | 61.95 - 141.6 | 7 - 16 | 700 | | ↻ | 3.3 | 21.19 | 1/4" Hex | 81 |
| MCY11RA | 61.95 - 212.4 | 7 - 24 | 450 | | ↻ | 3.3 | 21.19 | 1/4" Hex | 81 |
| MCG25RA1 | 106.2 - 221.25 | 12 - 25 | 600 | | ↻ | 4.84 | 27.55 | 3/8" Square | 81 |
| MCG40RA1 | 159.3 - 354 | 18 - 40 | 450 | | ↻ | 5.06 | 27.55 | 3/8" Square | 81 |

| Legend | | | |
|------------------|--------------|--------------|-----------------|
| ↻ Clockwise Only | ↻ Reversible | Direct Start | ↓ Push-to-start |

* Additional factor: 3dBA spread in method and production (ISO 15744)