

2007 Products

New flow regulators

Metal Work presents four new series of flow regulators (MRF) for compressed air, suitable to meet different application requirements. Their first distinctive feature is **miniaturization**: in detail, their height has been reduced to allow installation in narrow spaces. Another peculiarity is the **regulation curve**, obtained by enhancing the needle geometry: starting to unlock the screws with closed needle, the airflow rate is increased very gradually and with accurate control; after a few turns of the needle, the air flow grows more quickly, so as to satisfy high flow rate requirements. Mounting and application ergonomics are also very accurate: the flow regulators can be screwed from above with a tube spanner, reducing assembly times, and also pneumatic or electric screwdrivers can be used.



Metal Work flow regulators, model with knurled handle, recessed needle, push-lock handle and anti-tampering handle.

The ring with the fitting can be swivelled at an angle even after the MRF has been screwed, so the installer does not have to set the angle before locking.

The range includes both metal versions with nickel-plated brass ring and versions with technopolymer ring. Each piece is marked by laser, clearly indicating the direction of the regulated flow and the order number. In detail, there are four series:

Series MRF N, with knurled regulation handle and ring nut to lock the handle;

Series MRF O, with recessed regulation screw, offering minimum axial footprint;

Series MRF HF (High Flow), with very high flow rates both for regulation and for discharge, for applications on high-speed actuators;

Series MRF PL (Push Lock), very innovative: the regulation handle, after setting, is pressed to be locked. This system avoids that regulation is subject to changes under strong vibration that might cause a conventional handle to move.

An interesting accessory is the new **anti-tampering handle**, which - after regulation - is pressed axially so that, from that moment, its position cannot be changed.

Pneumatic cylinder with integrated hydraulic brake

The cylinder we are introducing is the first result of cooperation between the Metal Work technical department and Fluid Force, the company based in Ponte S. Marco that has recently joined our group.

The new device is a hydraulic-pneumatic system consisting of a pneumatic cylinder that acts as an actuator and a hydraulic circuit that acts as a brake. The pneumatic cylinder has dimensions that comply with ISO 6431 – ISO 15552. The hydraulic circuit is equipped with adjustable throttles to adjust the rod outgoing and incoming speed. One or more "skip" valves can be mounted to control the transition from fast to low motion or vice versa, and "stop" valves to stop the rod.

In this new cylinder, the motive power and braking power are coaxial, therefore they do not generate undesired bending moments on the cylinder rod and on the connected external structures.

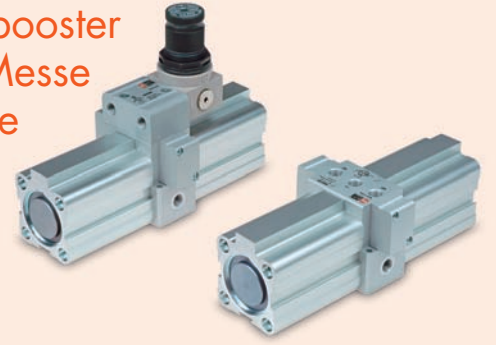
This is a distinctive feature of the new product.

Due to its concept, this cylinder is very compact as compared to conventional hydraulic brakes mounted outside the cylinder.



In the new cylinder, the motive power and braking power are coaxial.

Our pressure booster at Hannover Messe for the first time



Multimach valves and fieldbus

The Metal Work Multimach and HDM (*Heavy Duty Multimach*) valve families have achieved huge market success thanks to their **modularity**, **flexibility** and **compact size**. Now, they have been extended with a wide range of fieldbus interfaces. This is a presentation of the Multimach (IP20 protection degree) and HDM (IP65) versions.

Multimach versions

In this version adjacent to the valve island, fieldbus modules can be mounted to manage up to 24 output signals, choosing among Profibus DP, Interbus, Device net e CanOpen.

Modules for other signals can be added: digital inputs, analog inputs, digital outputs, analog outputs. With this system, you can manage up to 144 I/Os with a single slave node.

HDM versions

Electronic components are housed directly inside the pneumatic inlet terminal with a compact solution that is well protected by the aluminum housing. IP65 versions are available for Profibus DP (up to 16 outputs), AS-Interface (4 or 8 outputs, zero, 4 or 8 inputs), B&R X2X (16 outputs plus additional I/O management modules) protocols.



Solenoid valve islands Heavy Duty Multimach with Profibus DP.

New precision slides

Metal Work is continuing its collaboration with Alfa Meccanica, other company of the Group, which has developed the new S13 series of automation slides.

The slide has a hardened and ground steel guide, integral with the body, and a ball block fixed to the moving table that bears the loads. Motion is accurate and slack-free, while piston and rod, free from side

loads, are not subject to wear. All the slides are provided with magnet for the sensors. The body can be fastened on many sides, both with coach screws and with through screws. These options provide for high application flexibility. The unit width is very small, allowing for mounting in narrow spaces and side-by-side installation with smaller pitch. This range is available in four sizes: Ø 6, Ø 10, Ø 16 and Ø 20 mm, with standard strokes from 10 to 50 mm. Size 6 is very compact, 16 x 39 mm, so it solves applications with minimum space. Size 20, the strongest, bears loads up to 10 kg.



S13 slides with guide and ball block