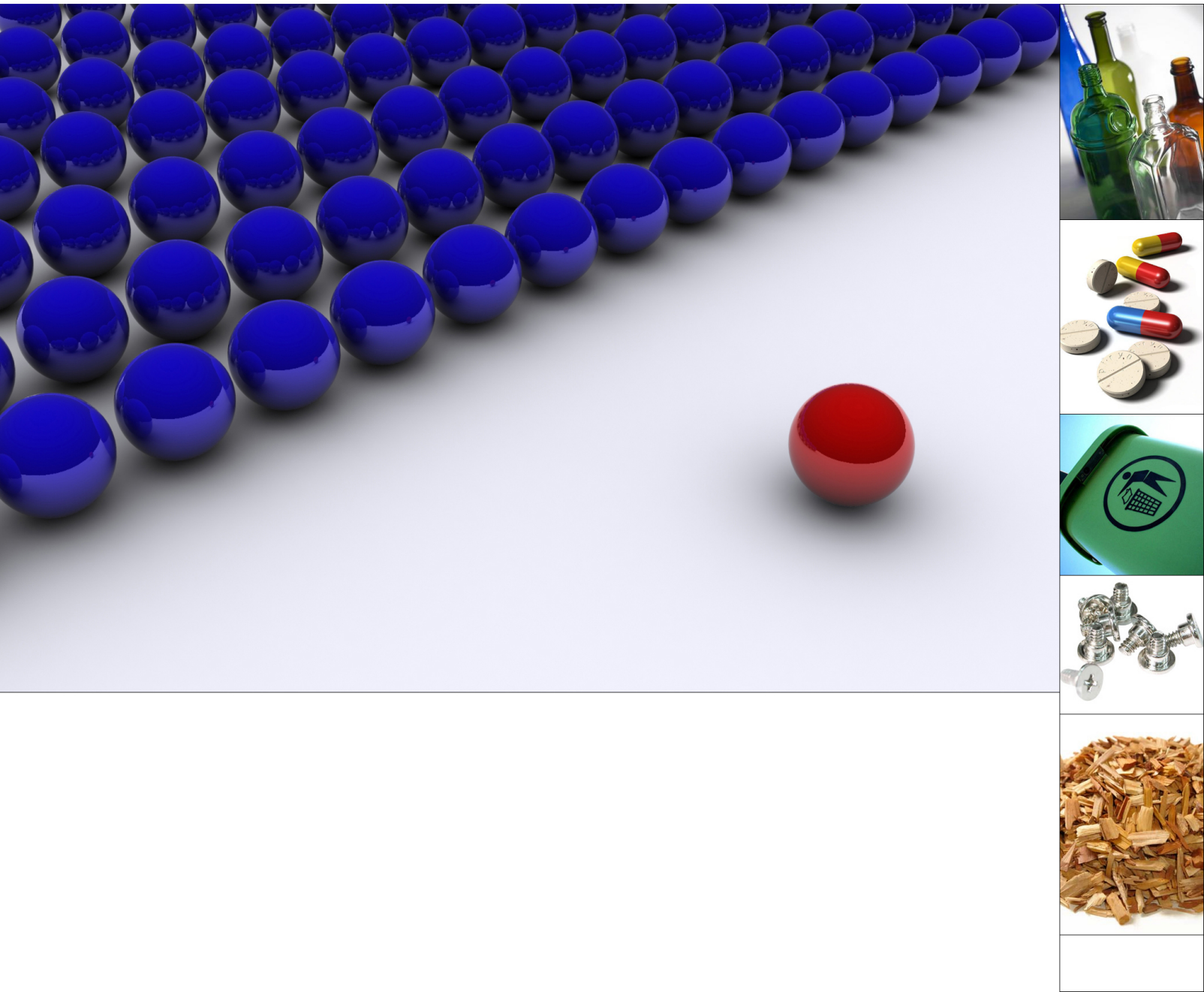


High-performance solutions for **sorting** and **recycling** applications



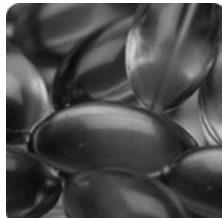
High performance solutions for sorting and recycling applications

Sorting systems technology is commonly used in the industrial processing of:

- food products (fresh, dehydrated or frozen) such as nuts, grains, seafood, coffee, vegetables, rice, corn, seeds, tomatoes, spices, tea, etc. so that all contaminants or defective products can be removed in order to meet the customer quality demands.
- plastic products processing (PET, PVC, etc.) to grant purity and to protect manufacturing machinery by preventing breakdowns.
- chemical products. Being that the chemical industry is part of the supply chain of other industries (food, pharmaceutical, plastics, etc.) is subject to strict quality standards and sorting systems play a vital role in ensuring products purity.
- pharmaceutical products like tablets and pills. They must meet strict quality standard regulations and are subject to rigorous quality assurance procedures at various stages throughout the production process.
- domestic refuse and industrial/commercial waste recycling (glass, paper, ceramics, plastic, cardboard, metals, etc.) where the sorting systems play a key-role in ensuring that recycled materials can be reprocessed in the respective production cycles.



In particular, the diffusion of sorting systems suitable for recycling applications is rapidly growing because of several factors, among which there are the increased waste production per capita due to the economic and well-being raise, several new and more restrictive environmental regulations, the raw materials price increase (metals, plastics, etc.) and the manual recycling labour cost increase.



In any industrial sorting application for the classification of bulk materials by colour, shape or size, both in case of production lines processing or recycling, the key-features of an high performance system are the speed and precision of the sorting process, other than its reliability. For the end-user, the benefits of such features translate in an increased and maintenance-free productivity. In order to match the top-notch requirements of these applications, MATRIX developed a new generation of innovative technical solutions capable to satisfy even the highest demands in terms of performance and quality standards.

These new products combine extremely short response times and very long maintenance-free operating life in compact designs. Available in a multitude of configurations ranging from single and multiple small-footprint valves up to complete manifold assemblies and customer-specific solutions, these products are suitable for any sorting or recycling system for the ejection of contaminants, impurities, out-of-specification parts and mixed parts separation in different industrial environments (food, chemicals, plastics, mining, waste management, glass and plastic recycling, etc.).

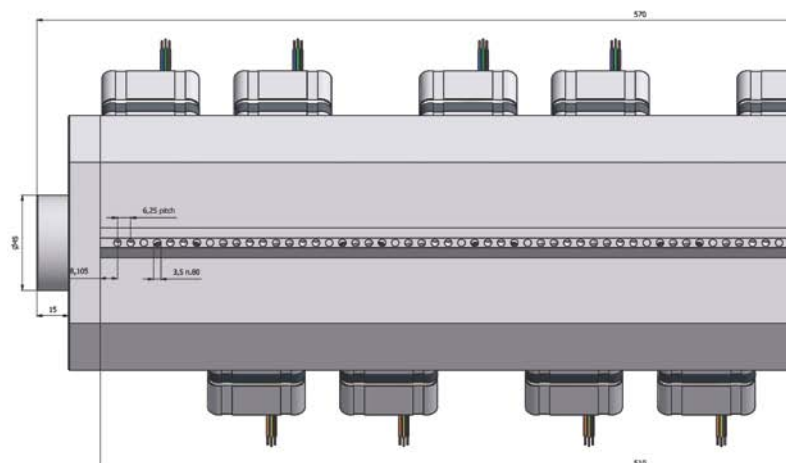
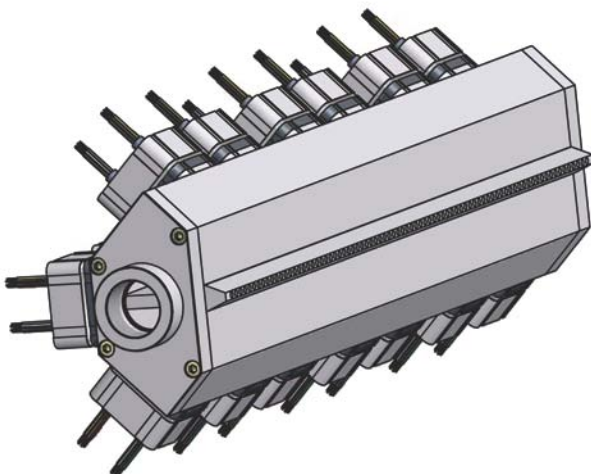
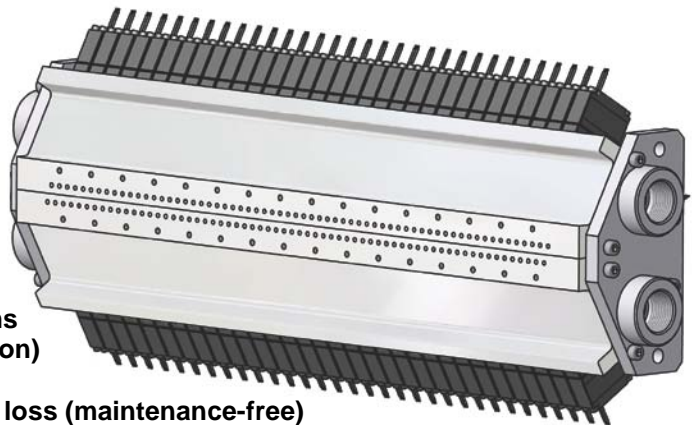
Innovative and reliable technology for impressive performances

Matrix's proven technology is characterized by highly innovative working principles offering upper-grade performances, reliability and flexible solutions. The absence of internal friction that combined with the reduction of the moving masses and the introduction of high energetic efficiency materials, allow extremely short response times and increased precision and repetitiveness with low power consumption, while the modular architecture with the integration of several shutters in a single compact body allows a sensible reduction of the installation time and an overall optimization of the pneumatic system design.



A wide range of ready-to-use products, the highest skills and technical knowledge focused on the development of reliable customer specific solutions for air ejection systems, all characterized by:

- Compact dimensions and light weight
- Low power consumption values
- Reduced installation times
- Individual or multiplex configurations
- Opening / closing response times down to 1 ms (100% flow rate for precise and powerful ejection)
- Up to 500.000.000 cycles without performance loss (maintenance-free)
- Variable flow rates and configurations for improved flexibility
- Preassembled and 100% tested manifold units for air ejection with up to 300 outlets
- Distance between the outlets of the manifold starting from 6mm
- Twin manifold versions (GMT) with adjustable vertical off-sets and minimum pitch of 3 mm



Product highlights – High performance individual valves

820 SERIES

2/2 NC

Flow rate: up to 220 l/min

Response time: down to 1 ms

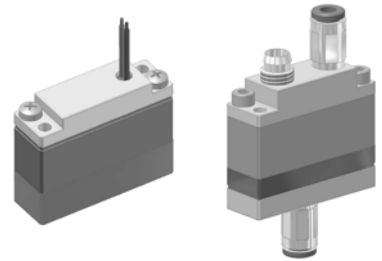
Pressure range: 2-8 bar

Electrical connection: IP62 moulded-in cables, integrated M8 connector

Footprint: 12x37 mm

Weight: 25 gr.

Individual versions for direct mounting and sub-base versions for manifold



840 SERIES

2/2 NC MULTIFLOW

Flow rate: up to 300 l/min (150 l/min + 150 l/min modular architecture)

Response time: down to 2 ms

Pressure range: 2-8 bar

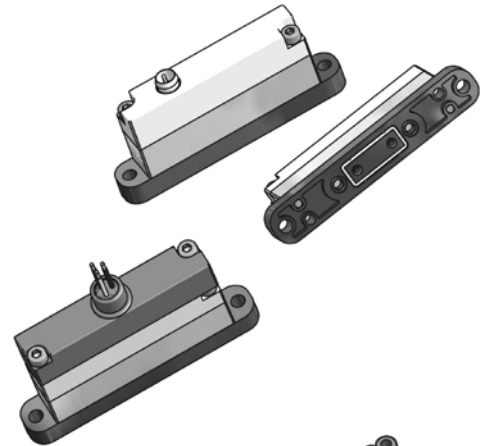
Electrical connection: IP62 moulded-in cables, integrated M8

Footprint: 12x75 mm

Weight: 35 gr.

Individual versions for direct mounting and sub-base versions for manifold

Integrated speed-up driver versions available for easy installation



720 SERIES

2/2 NC and 3/2 NC or NO

Flow rate: up to 100 l/min

Response time: down to 2 ms [max operating freq. up to 200 Hz]

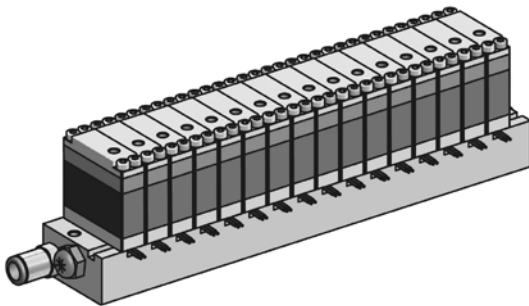
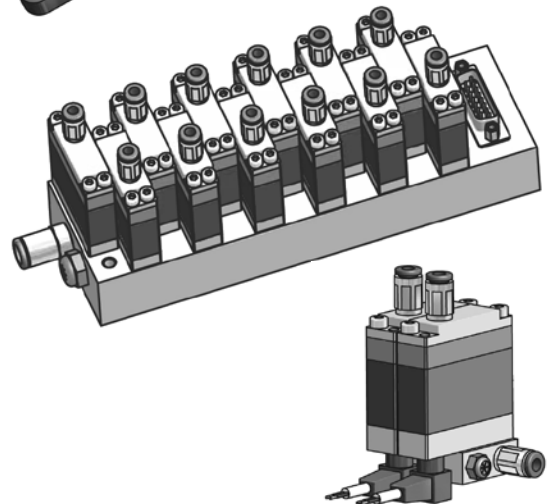
Pressure range: 0-8 bar

Electrical connection: IP62 moulded-in cables, integrated M8 connector

Footprint: 12x41 mm

Weight: 35 gr.

Individual versions for direct mounting and sub-base versions for manifold



320^(new) SERIES

2/2 and 3/2 NC or NO

Flow rate: 30 l/min

Response time: down to 2 ms [max operating freq. up to 200 Hz]

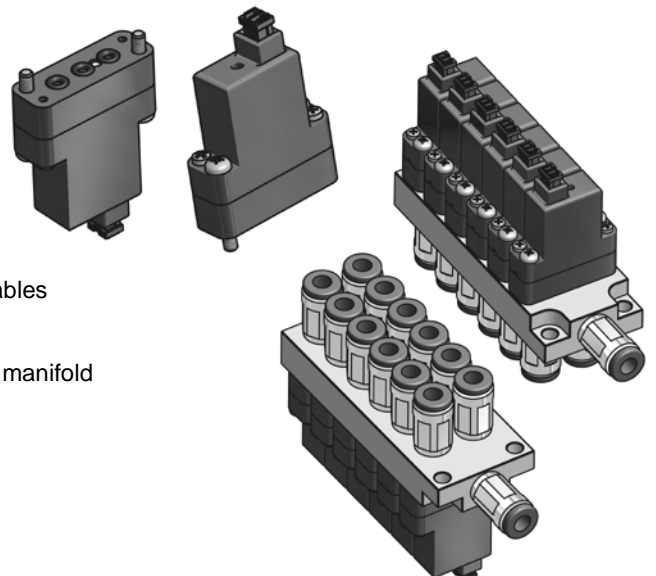
Pressure range: 0-8 bar

Electrical connection: IP62 integrated connector or moulded-in cables

Footprint: 8x23 mm

Weight: 15 gr.

Individual versions for direct mounting and sub-base versions for manifold

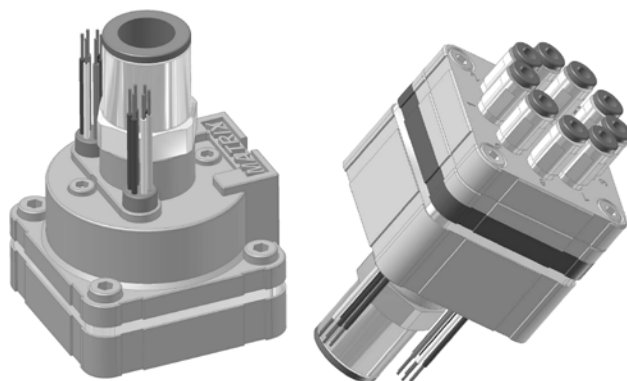


Products highlights – High performance multiplex valves

850 & 890^(new) SERIES

2/2 NC

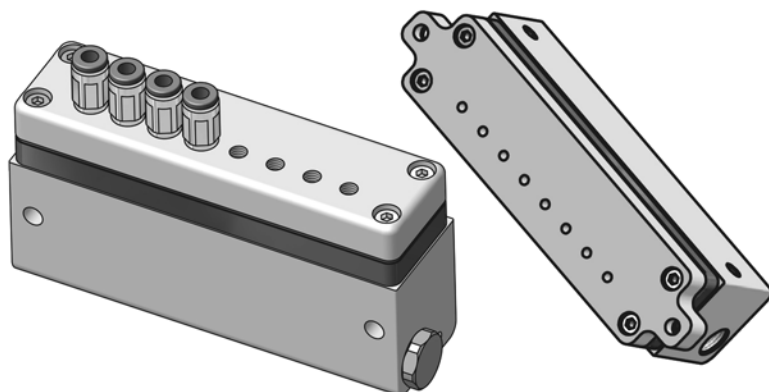
Modular architecture: 1, 3 or 9 outlets
 Flow rate: from 100 l/min up to 1600 l/min
 Response time: down to 1 ms
 Pressure range: 2-8 bar
 Electrical connection: IP62 moulded-in cables
 Footprint: 46x46 mm
 Weight: 160 - 260 gr (depending on models)
 Variable flow rate versions for improved flexibility



580 SERIES

2/2 NC

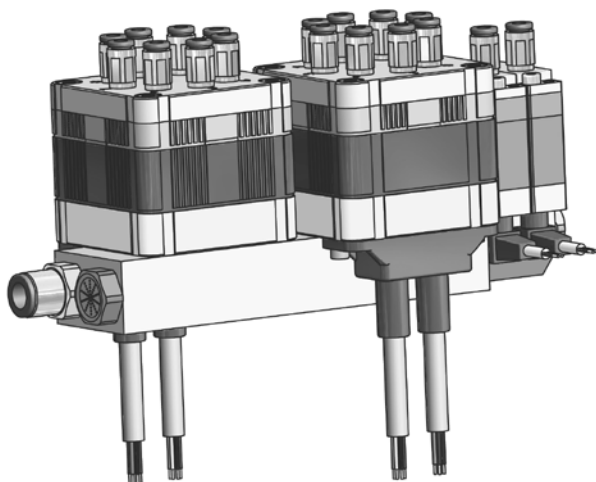
Modular architecture: 8 outlets
 Flow rate: 180 l/min each outlet
 Response time: down to 2 ms
 Pressure range: 0-5 bar
 Electrical connection: IP62 moulded-in cables
 Footprint: 118x28 mm
 Weight: 400 gr (depending on models)
 Sub-base versions for manifold installation available
 Variable flow rate versions for improved flexibility



750 SERIES

2/2 NC and 3/2 NC or NO

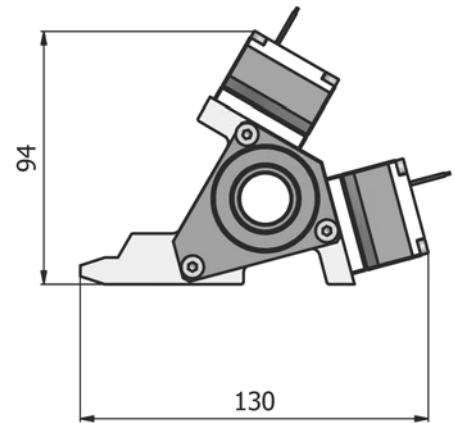
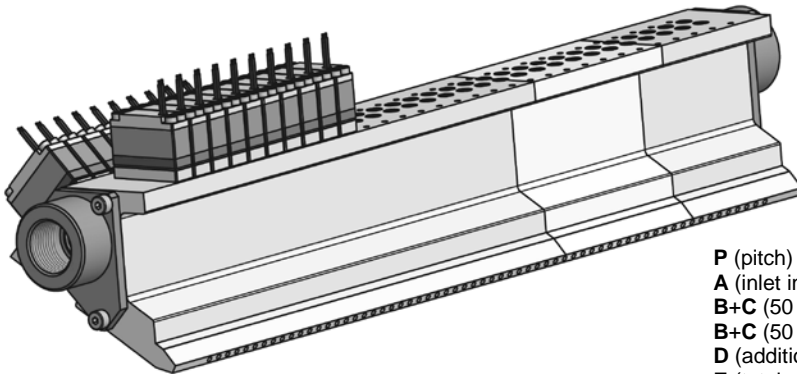
Modular architecture: 8 outlets
 Flow rate: from 50 l/min up to 700 l/min depending on outlets configuration
 Response time: down to 2 ms [max freq. up to 200 Hz]
 Pressure range: 0-8 bar
 Electrical connection: IP62 moulded-in cables, Easy Connection System
 Footprint: 55x55 mm
 Weight: 350 gr (depending on models)
 Variable flow rate versions for improved flexibility
 Custom configurations (3/3 and 5/2) available



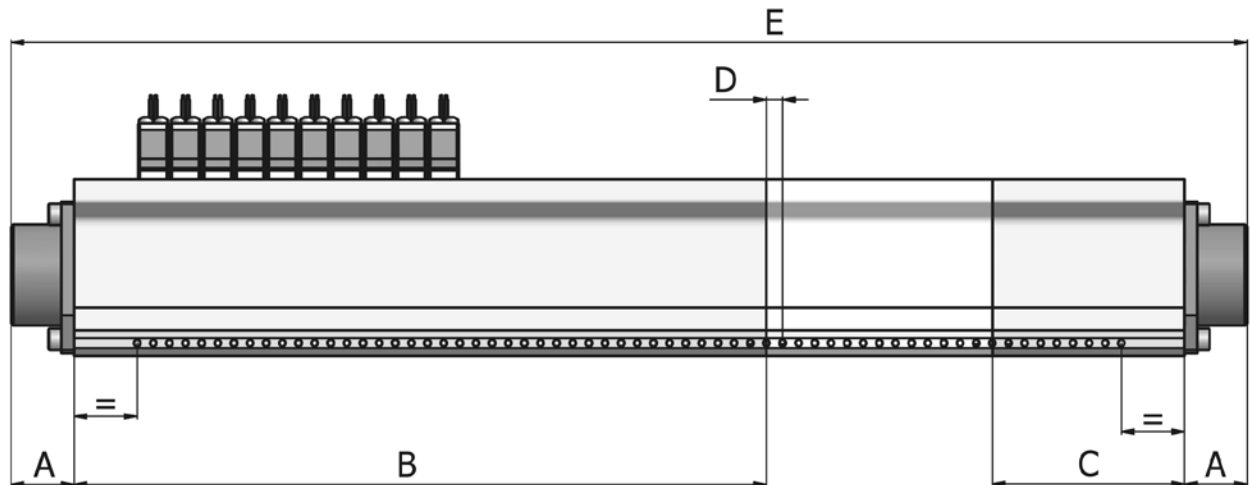
Products highlights – Manifold units for air ejection sorting systems

GM820 SERIES

Nozzles / 820 Series valves: from 50 up to 300
 Flow rate: 100 l/min, 140 l/min, 180 l/min, 220 l/min
 Available Pitches: from 6 mm up to 25 mm (6,15 | 6,35 | 6,4 | etc.)
 Response time: down to 1 ms
 Pressure range: 2-8 bar
 Inlet ports: n.2 G3/4" or G1"
 Electrical connection: IP62 moulded-in cables, integrated M8 connector
Customised solutions available upon request



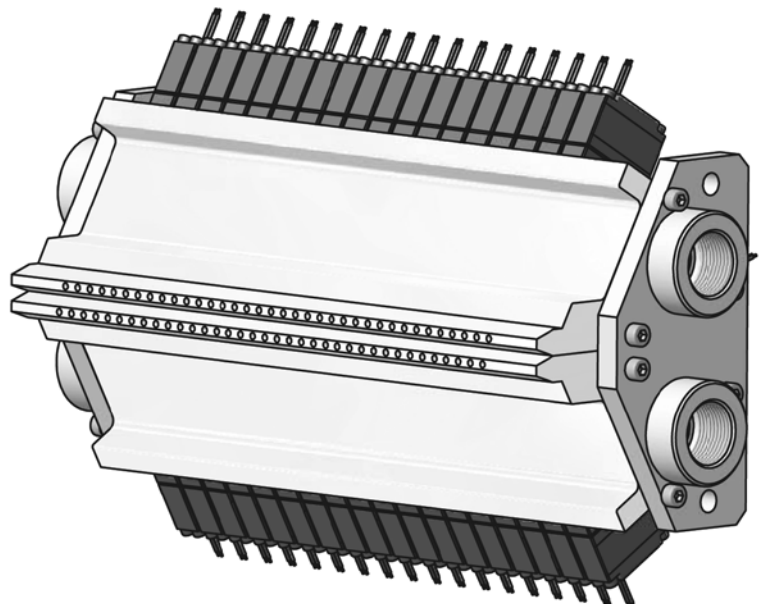
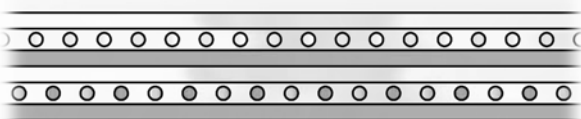
P (pitch) = from 6 mm onward
 A (inlet interfaces) = 25 mm
 B+C (50 nozzles manifold size, pitch 6 mm) = 344 mm
 B+C (50 nozzles manifold size, pitch 6,4 mm) = 363 mm
 D (additional outlets) = P x additional outlets
 E (total manifold length) = B+C+2xA+D



GMT820 SERIES TWIN

Nozzles / 820 Series valves: from 100 up to 600
 Flow rate: 100 l/min, 140 l/min, 180 l/min, 220 l/min
 Available Pitches: from 3 mm on, vertical offset 10 mm
 Response time: down to 1 ms
 Pressure range: 2-8 bar
 Inlet ports: n.4 G3/4"

Twin configuration with 10 mm vertical offset between upper and lower rows of nozzles

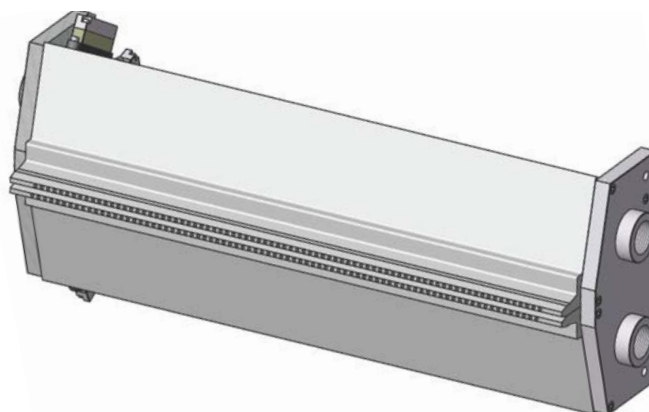
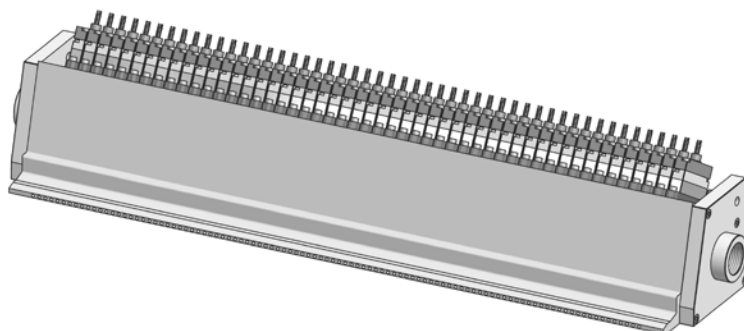
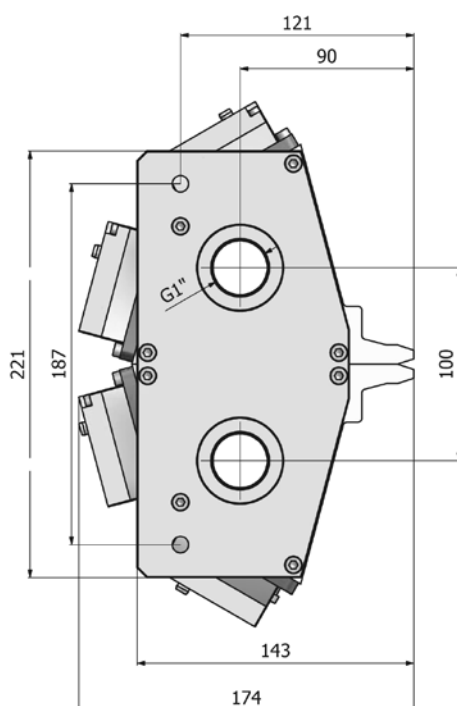
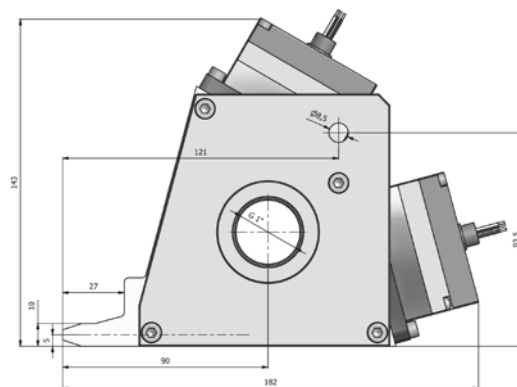


Products highlights – Manifold units for air ejection sorting systems

GM840 SERIES

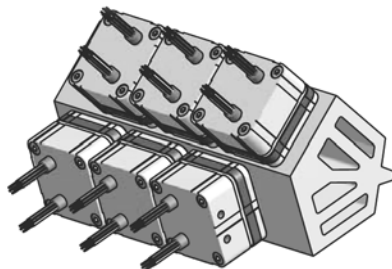
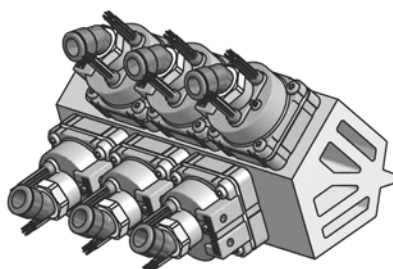
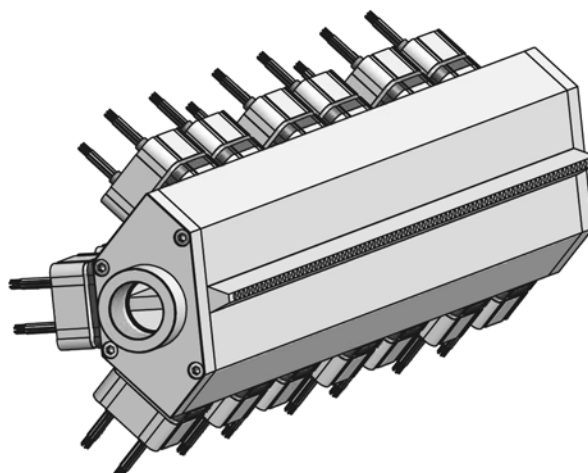
Nozzles / 840 Series valves: form 50 up to 300
 Flow rate: 300 l/min (150 l/min + 150 l/min Multiflow architecture)
 Available Pitches: from 6 mm up to 25 mm (6,15 | 6,35 | 6,4 | etc.)
 Response time: down to 2 ms
 Pressure range: 2-8 bar
 Inlet ports: n.2 G1"
 Electrical connection: IP62 moulded-in cables, M8 connector
 Custom surface treatments available
 Custom stainless steel replaceable outlet nozzles modules available
 Integrated speed-up driver versions available for easy installation

Available also in TWIN configuration as **GMT840 SERIES**
 with 10 mm vertical offset between upper and lower rows of nozzles



GM850^(new) and GM890^(new) SERIES

Nozzles / 850 and 890 Series valves: form 50 up to 300
 Flow rate: 180 l/min (or variable with modular architecture)
 Available Pitches: 6,25 mm | 8 mm
 Response time: down to 1 ms
 Pressure range: 2-8 bar
 Inlet ports: n.2 G1" (890) or inlet push-in fittings
 Electrical connection: IP62 moulded-in cables
 Custom surface treatments available



Products highlights – Manifold units for air ejection sorting systems

GM580^(new) SERIES

Nozzles / 580 Series valves: from 50 up to 300

Flow rate: 180 l/min

Available Pitches: 9 mm

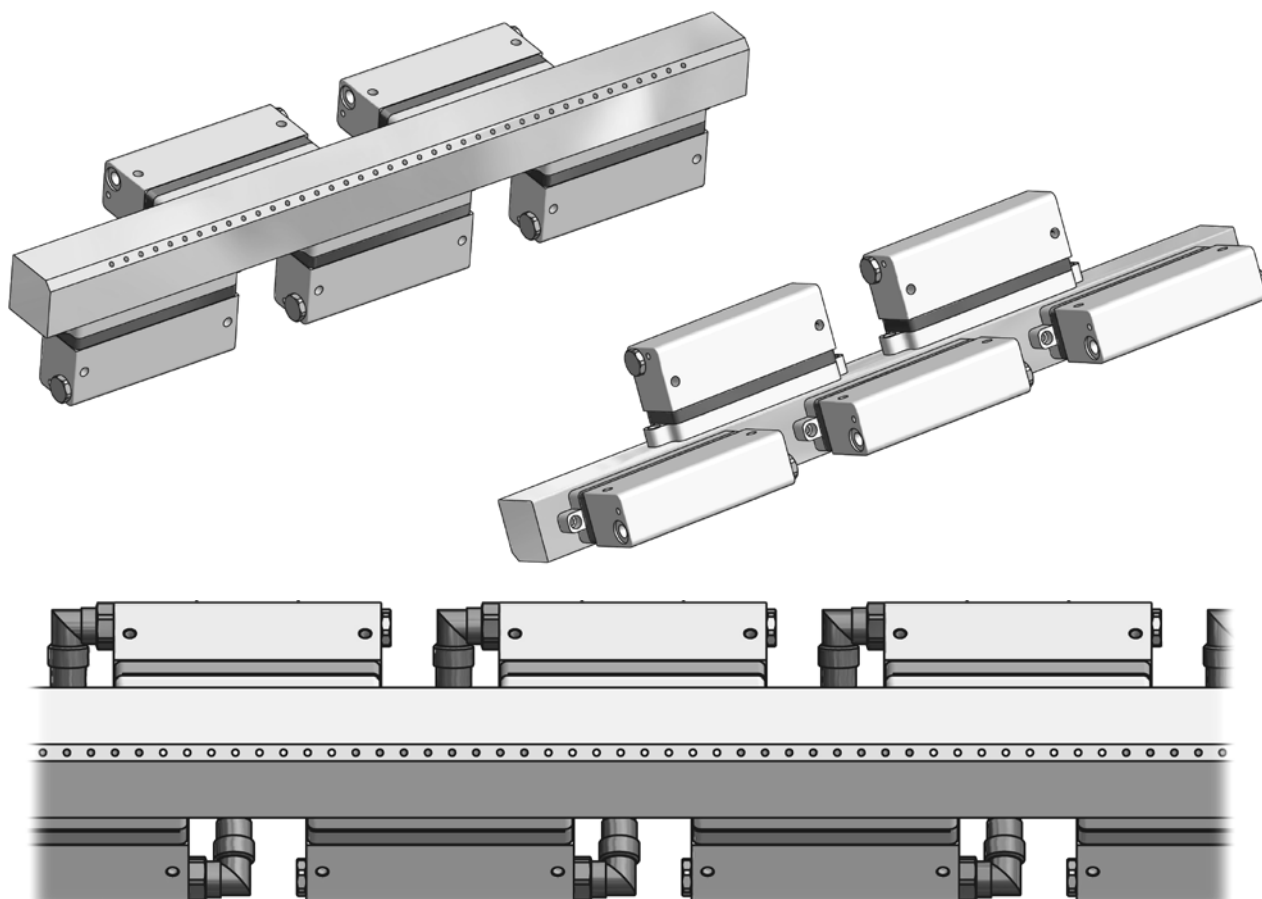
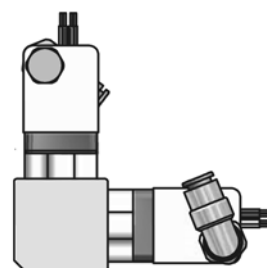
Response time: down to 1,5 ms

Pressure range: 0-5 bar

Inlet ports: n.x inlet push-in fittings

Electrical connection: IP62 moulded-in cables

Customised solutions available upon request



For any additional information, please contact:

MATRIX
mechatronics

PNEUMATIC DIVISION

Corso Vercelli n.330, 10015 Ivrea (IT)

T +39 0125 615442 • F +39 0125 615377

matrix@matrix.to.it • www.matrix.to.it

