



Orpheus pressure reduction module



elster
Instromet

The Elster Group is a global leader in Advanced Metering Infrastructure (AMI) and integrated metering, control and utilisation solutions to the gas, electricity and water industries. Its systems and solutions reflect the wealth of knowledge and experience gained from over 170 years of dedication to measuring precious resources and energy. The Group currently operates in 115 countries with 38 major locations across the world including UK offices in Stafford, Melton Mowbray, Bromsgrove and Luton.

Elster are proud to present the 'Orpheus' - A completely self contained pressure reduction module for both above and below ground installations. Designed on the principle of reliability, easy maintenance and low whole life cost, the Orpheus range has a proven track record within the UK and global markets, offering a versatile option for any gas network operator.



Applications

- District Installations
- Housing Developments
- Mixed Residential and Commercial Developments
- Small Commercial/ Industrial Developments
- Reinforcement Applications for Existing Supplies

Developed with maintenance and whole life asset cost in mind, the Orpheus encompasses the same top access cartridge design for all variants, offering the following benefits for any installation:

- Smaller footprint than a traditional Pressure Reduction station, offering benefits from land cost
- Large filter area giving extended inspection and maintenance periods
- Single access point for maintenance
- Minimal number of flanged joints reducing potential risk of leakage
- Utilises the well proven and reliable Axial Flow Valve and associated control pilots
- Renowned ball and cage safety shut off mechanism
- No special maintenance tools required
- No requirement to break into the gas main during maintenance
- Availability of a full range of optional control systems
- Simple to upgrade or alter operating conditions



Series 4

Capacities up to 11,500 SCMH

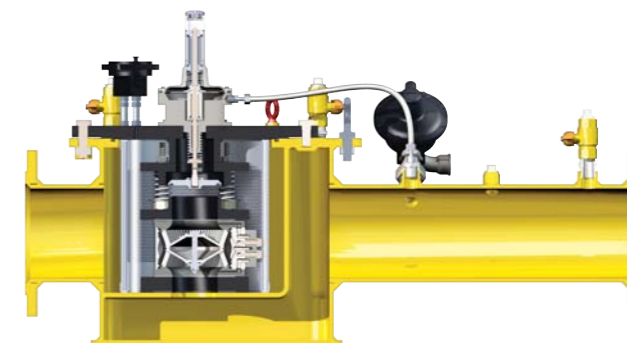
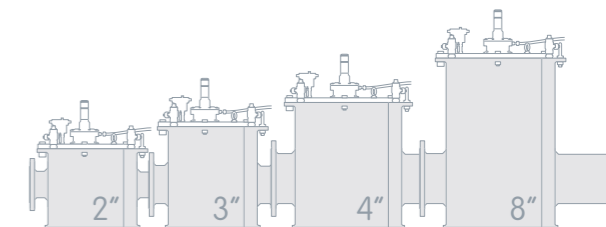
Sizes: 2", 3", 4", 8"

Design

Design Pressure:	4 Bar
Inlet Pressure:	0.14 Bar to 4.0 Bar
Outlet Pressure:	20 mBar to 350 mBar
Inlet/Outlet:	PE Tails or flanged connections
Configuration:	Active/Slam Single or Multiple Streams
Installation:	Above or Below ground
Covers:	To BS EN 124 B125 - suitable for roadside use (BGI only)

Key components

Vessel:	Steel construction
Filter:	Integral 200 micron stainless steel filter element
Regulator:	Axial Flow Valve to EN334
Safety Shutoff:	S110
Isolation Valves:	Gate Valves
Pressure Control:	1200 Series
Creep Relief:	10L



Series 7

Capacities up to 14,000 SCMH

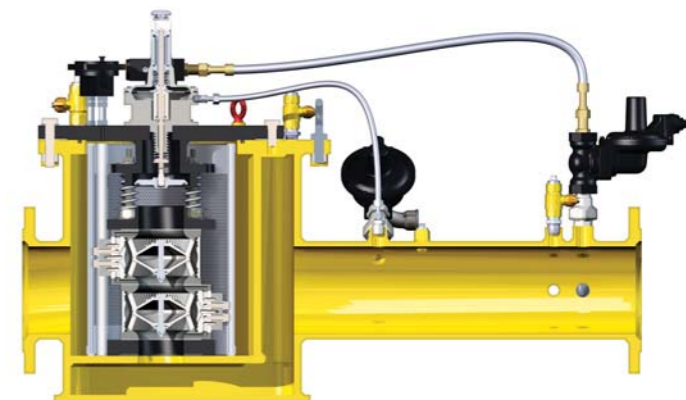
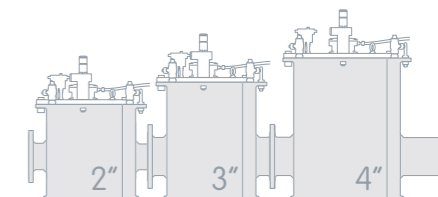
Sizes: 2", 3", 4"

Design

Design Pressure:	10 Bar (higher pressures available on request)
Inlet Pressure:	1.5 Bar to 10 Bar
Outlet Pressure:	20 mBar to 2.0 Bar
Inlet/Outlet:	PE Tails or flanged connections
Configuration:	Active/Monitor Active/Monitor/Slam Single or Multiple Streams
Installation:	Above or Below ground
Covers:	To BS EN 124 B125 - suitable for roadside use (BGI only)

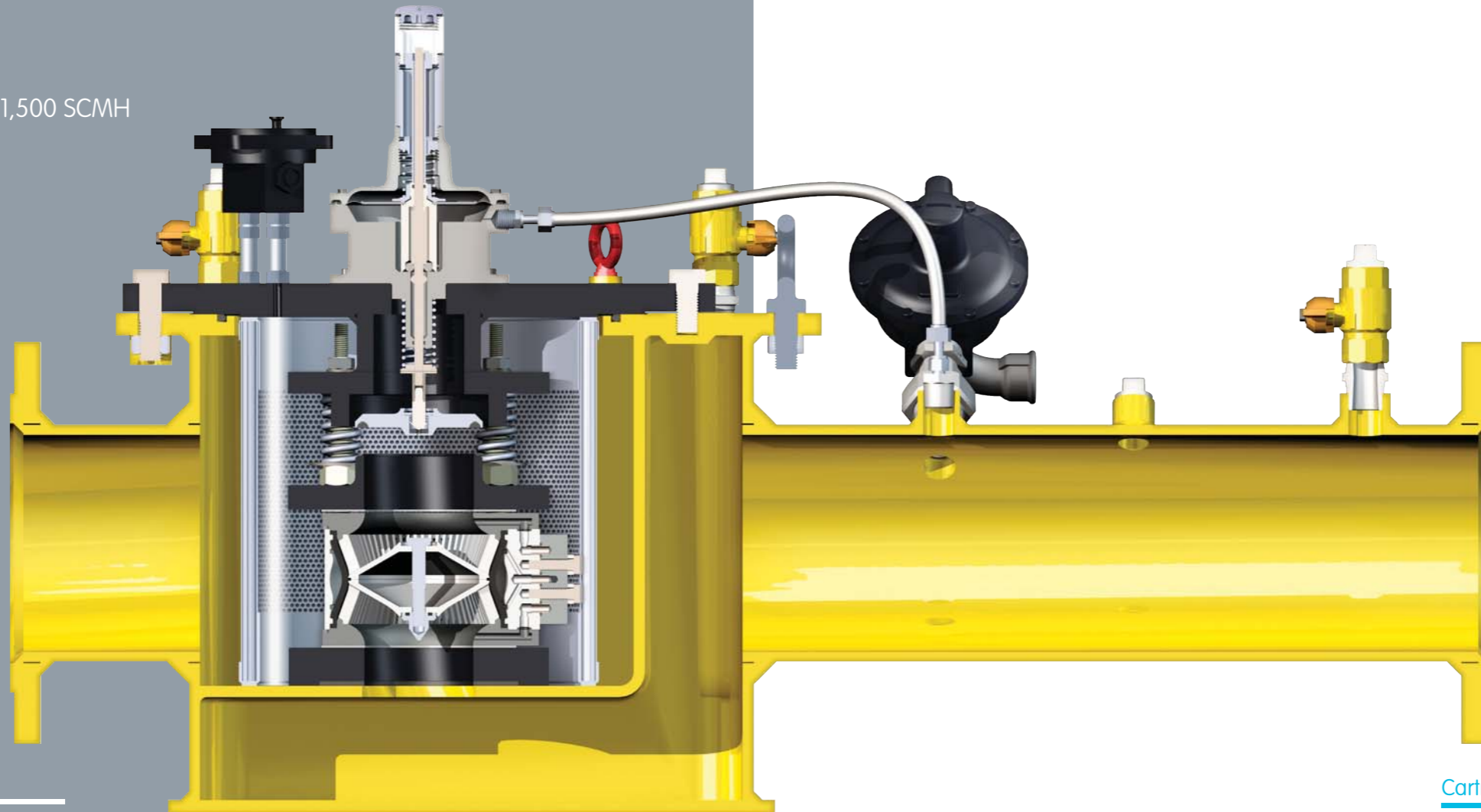
Key components

Vessel:	Steel construction
Filter:	Integral 50 micron stainless steel filter element
Regulator:	Axial Flow Valve to EN334
Safety Shutoff:	S110
Isolation Valves:	Gate Valves
Pressure Control:	1200 Series
Creep Relief:	10L



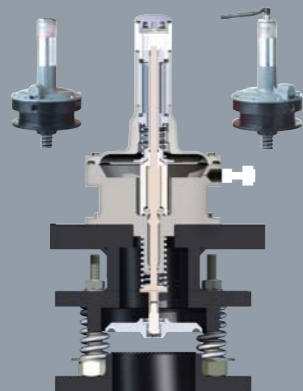
Series 4

Capacities up to 11,500 SCMh



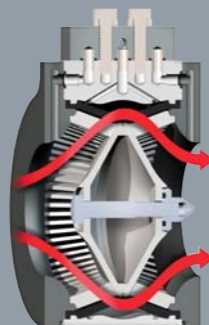
Slam shut valve

Safety is paramount and the Series 110 ball and cage mechanism is the most reliable, repeatable and vibration immune system available having become the standard by which other security systems are judged. Available with both local and remote position indicators.



Axial flow valve

Low operating and maintenance costs are assured by the well proven Axial Flow Valve. Reliable, simple and effective and based on a flexible expanding sleeve, the Axial Flow Valve has no moving parts to stick, wear or break.



Filter

Available with either 200 or 50 micron filtration level the Orpheus stainless steel element, when compared with equivalent capacity regulating stations, provides up to 10 times the filter area. This virtually eliminates the need for routine inspection.



Control

For easy simple adjustment, all the control elements are readily available. Removal of the cartridge is NOT necessary.



Flexible hose

To simplify maintenance and reduce pipe stress, stainless steel convoluted hoses are used which are braided for strength.



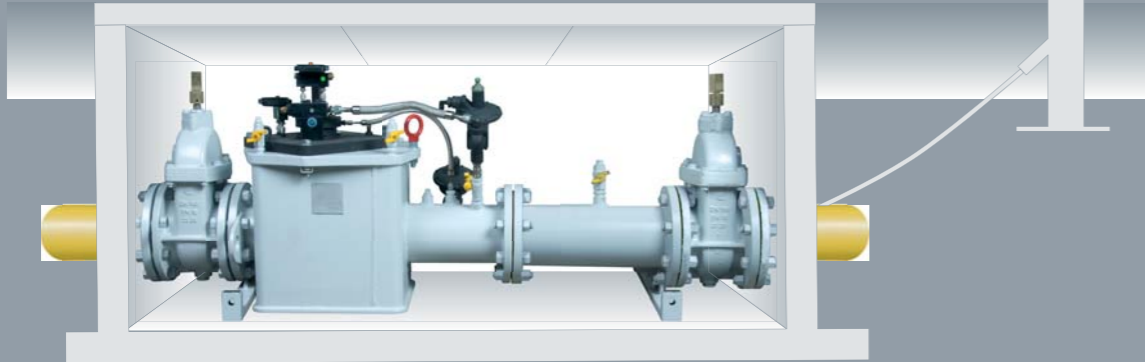
Cartridge removal

The Orpheus features a novel cartridge assembly that comprises the Axial Flow Valve regulator and integral Series 110 slam shut valve. The lightweight construction eliminates the need for a dedicated lifting davit and allows removal using slings and a 2-man lift.



Below ground installations

Installing pressure reduction modules below ground offers an environmental benefit against a traditional above ground design, and it was for this purpose that the Orpheus was originally developed.



All below ground Orpheus stations are supplied ready to install with a suitable GRP pit.

- Eliminated or reduces land costs – a key driver for urban installations.
- Low noise levels (below 60dBA)
- Simplified planning process
- Reduced cost by removing the necessity for a kiosk
- Aesthetically more pleasing
- Reduced environmental impact
- Reduced risk of vandalism and associated costs.
- Reduced risk of accident and collision damage for roadside installations.

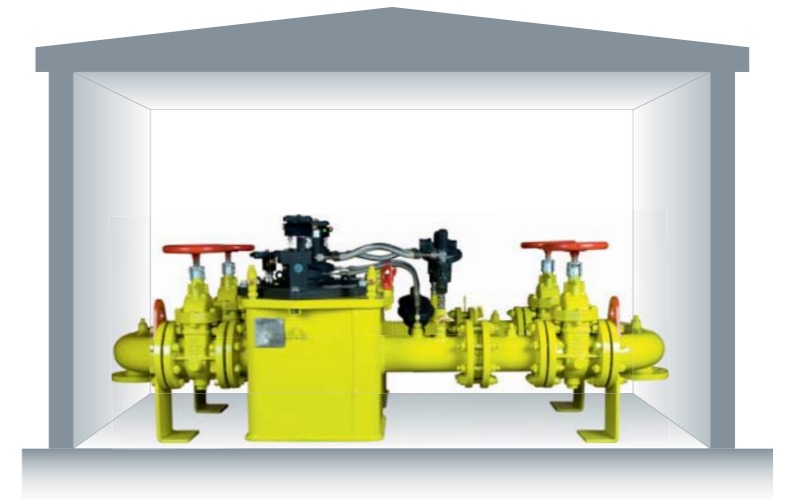


Above ground installations

Where land and noise restrictions are not a constraint, Elster can provide the Orpheus in an above ground design, facilitating the following:

- Ease of access for maintenance
- Smaller footprint compared to traditional designs
- Availability of a full range of kiosk options

Stream replacement option – The compact design of the Orpheus allows the simple upgrade of existing stations without the need to compromise the installed connections.



Options

As with conventional pressure reduction modules Orpheus can be supplied with the following options:-

- Vent Stack
- Data Logger
- Pressure Gauges
- Alarms
- Clock Control
- Profile Control
- Stream Selection
- Metering
- ① Filter DP Alarm
- ② Slam Shut Alarm
- ③ High and low Pressures (via Data Logger)
- ④ Meter



About Elster Group

Elster Group is the world's leading manufacturer and supplier of highly accurate, high quality, integrated metering and utilisation solutions to the gas, electricity and water industries. In addition, through its subsidiary Ipsen International, it is the leading global manufacturer of high-level thermo-chemical treatment equipment.

The group has over 7,500 staff and operations in 38 countries, focused in North and South America, Europe and Asia. Elster's high quality products and systems reflect the wealth of knowledge and experience gained from over 170 years of dedication to measuring energy and scarce natural resources.

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