ANALYTICAL FILTERS ENGINEERING

MAESTROGUARD®
Analyser Protection & Sample Integrity

CYCLONIC SEPARATOR / CDS SERIES

CDS-50-316L-50

Cyclone Dust Separation for Gas Samples



CDS-50 product illustration; markings subject to verification

APPLICATION

The MaestroGuard® CDS-50 is a compact stainless-steel cyclone dust separator for gas sample-conditioning systems. Centrifugal separation reduces the entrained solid-particle load before the sample reaches downstream filters, regulators and sensitive analyzers.

TECHNOLOGY

CYCLONIC SOLID PRE-SEPARATION.

Gas is directed into a rotating flow. Centrifugal forces drive solid particles toward the outer wall and dust collection section, while the gas exits through the central outlet. No replaceable cartridge is required for primary separation.

50 bar	316L	GAS SAMPLE
Maximum pressure	Stainless steel housing	Primary dust separation

SOLID-PARTICLE PRE-SEPARATION

Reduces entrained dust without a replaceable filter cartridge in the cyclone stage.

DOWNSTREAM PROTECTION

Helps protect fine filtration, membrane stages and analytical instruments from solid loading.

OPTIONAL MAESTROINERT™ SURFACE TECHNOLOGIES

MI-2010 protective finish • MI-2020 low-adhesion • MI-2030 inert SiOx

Engineered for Sample Integrity.
Developed & Manufactured by Analytical Filters Engineering Kft.

Technical specifications

MaestroGuard® CDS-50 | Primary dust separation

CONSTRUCTION & MATERIALS

Housing material	Stainless steel AISI 316L / EN 1.4404
Separation device	Cyclonic / inertial solid-particle separator
Filtration element	Not required for primary centrifugal separation
Separation duty	Pre-separation of dust / entrained solids from gas samples
Process connections	Gas IN: 3/8"-18 NPT; gas OUT: 3/8" OD; dust clean-out: 1/2"-14 NPT

CYCLONIC DUST SEPARATION

INERTIAL PRE-SEPARATION

Swirling flow directs particles to the wall and lower solids collection section.

ANALYSER PROTECTION

A downstream fine filter may be required for smaller or residual particles.

OPERATING PARAMETERS

Pressure rating	Maximum 50 bar (complete assembly rating to be confirmed)
Standard temperature limit	Up to 205 °C with FKM seals
High-temperature option	Up to 330 °C with FFKM seals; verify total assembly
Gas flow / separation efficiency	Application-dependent; geometry and gas conditions required
Pressure drop	Depends on actual volumetric flow, gas density and inlet geometry

DOCUMENTATION & OPTIONS

Materials documentation	EN 10204 Type 3.1 where available and specified
ATEX / PED / CE	Confirm product-specific conformity
MaestroInert™	MI-2010 / MI-2020 / MI-2030, according to service

* Performance curves and d50 require the verified internal cyclone geometry.

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Selection & ordering data

Select standard FKM or high-temperature FFKM configuration for the service.

ORDERING CONFIGURATION

CONFIGURATION STRUCTURE

CDS-50-316L-50-[SEAL]-[TEMP]-[FINISH]

Final code and technical designation per AFE quotation.

CONFIGURATION FIELDS

01 Separator model	CDS-50; centrifugal solid-particle pre-separator
02 Pressure / housing	50 bar maximum; AISI 316L stainless steel
03 Separation function	Cyclonic removal of entrained solid particles
04 Seal option	FKM standard / FFKM for high-temperature execution
05 Temperature version	STD ≤ 205 °C / HT ≤ 330 °C (assembly dependent)
06 Process interfaces	3/8"-18 NPT inlet; 3/8" OD outlet; 1/2"-14 NPT clean-out
07 Finish / documentation	Select MaestroInert™ coating and certificates, if required

MAESTROINERT™ SURFACE TECHNOLOGIES

MI-2010	Protective finish for corrosion / wet or oxygen-related duty
MI-2020	Hydrophobic / oleophobic low-adhesion treatment
MI-2030	Inert SiOx finish for adsorption-sensitive gas sampling

SERVICE & ACCESSORIES

Dust clean-out	Bottom port; access and safe isolation required for maintenance
Mounting / seals	Application-compatible sealing and mounting on request
Documentation	Approved assembly drawing / service-specific certificates

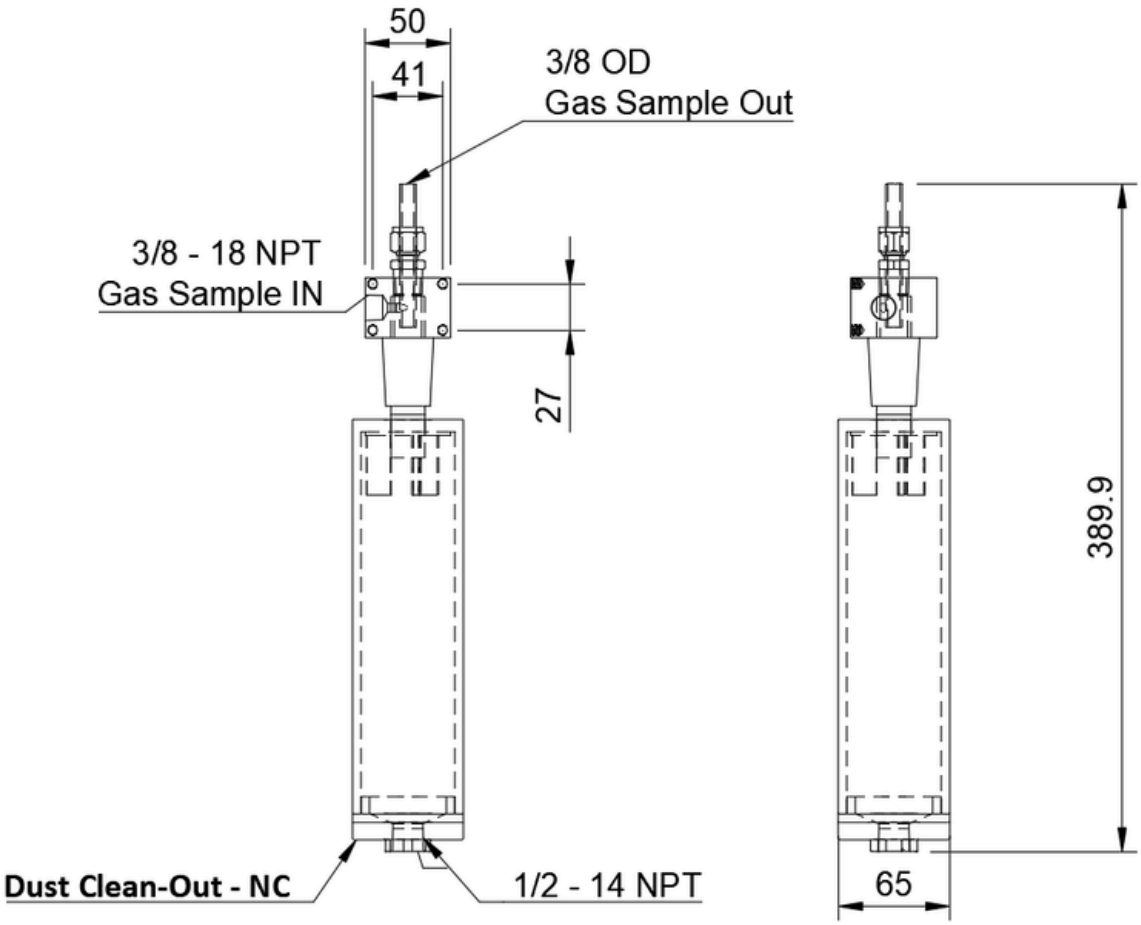
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Dimensions & interfaces

CDS-50-316L-50 | Reference dimensions in millimetres

TECHNICAL DRAWING

FRONT & SIDE VIEWS



MECHANICAL & PROCESS INTERFACES

Sample gas inlet	3/8"-18 NPT female; side entry
Gas sample outlet	3/8" OD tube connection; top outlet
Dust clean-out / isolation	1/2"-14 NPT lower port; NC shown on drawing
Overall dimensions	390 mm overall height; 65 mm lower housing width
Upper block / reference	50 mm width; 41 mm inner span; 27 mm block height

* Reference drawing. Confirm all dimensions against released production CAD.

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