

# Ultrapure R-EG

The electronic industry's requirements concerning the purity of auxiliary materials are rising together with the growing memory density and efficiency of the electronic elements.

In order to meet these high requirements, gases like oxygen, argon, helium or nitrogen are filtered by the Donaldson Ultrafilter Ultrapure – the pure gas filter R-EG and its multilayered depthfilter medium R-TF.

Absolute retention rates of particles with a size of only 0.01 µm guarantee a troublefree and a quantitatively consistent quality of production.

## Product description:

The Donaldson Ultrafilter Ultrapure pure gas filter consists of a 1.4404 (316L) stainless steel housing. The housing is electropolished from the inside and has a surface finish of Ra = 0.8. Inside the housing it features a multilayer depthfilter, a medium that provides an absolute retention of particles up to 0.01 µm. The Ultrapure filter is preferred in the electronic industry as a point of use filter for gases like oxygen, argon, helium or nitrogen.



The Ultrapure gas filter R-EG with depth filter R-TF

## Applications:

The Ultrapure point of use filter is designed and developed for the following applications:

- photo paint
- ion donation
- oxidation/diffusion ovens
- wafer drying
- aerospace technology
- filtration of solvents
- gas supply and automatic control systems

## Ultrapure R-EG

Features:	Benefits:
Absolute retention	The Donaldson Ultrafilter Ultrapure gas filter has been developed especially for the semiconductor industry, they retain particles up to a size of 0.01 $\mu\text{m}$ , in accordance with the corresponding standards.
Long service life/ low operating costs	The high capacity to hold dirt and the high volume of the depth filter medium R-TF result in long service life at low differential pressure which leads to low operating costs.
Safety from leakage	A special Viton o-ring and a clamp connection between the two parts of the housing form an efficient and safe protection against the escape of gases.
No particle emission	No fibers or other particles migrate from the patented Donaldson Ultrafilter depth filter medium R-TF. This guarantees the highest purity of the filtrate and a high quality of the production.
No migration of particles/ optimal cost efficiency	The particle retention up to 0.01 $\mu\text{m}$ leads to the best possible efficiency of the filter and the depth filter medium R-TF Ultradepth leads to a long service life at a low differential pressure. This means that the use of Ultrapure gas filters amortizes after a short while.

Materials:	
Filter housing:	Stainless steel 1.4404 (316L)
Housing sealing:	Viton (Bam-passed)
Inner guard:	Stainless steel 1.4404 (316L)
Outer guard:	Stainless steel 1.4404 (316L)
End caps:	Stainless steel 1.4404 (316L)
Filter media:	Ultradepth (Borosilicate fiber)
Sealing:	Viton (BAM-passed)

Absolute retention rates:
0,01 $\mu\text{m}$

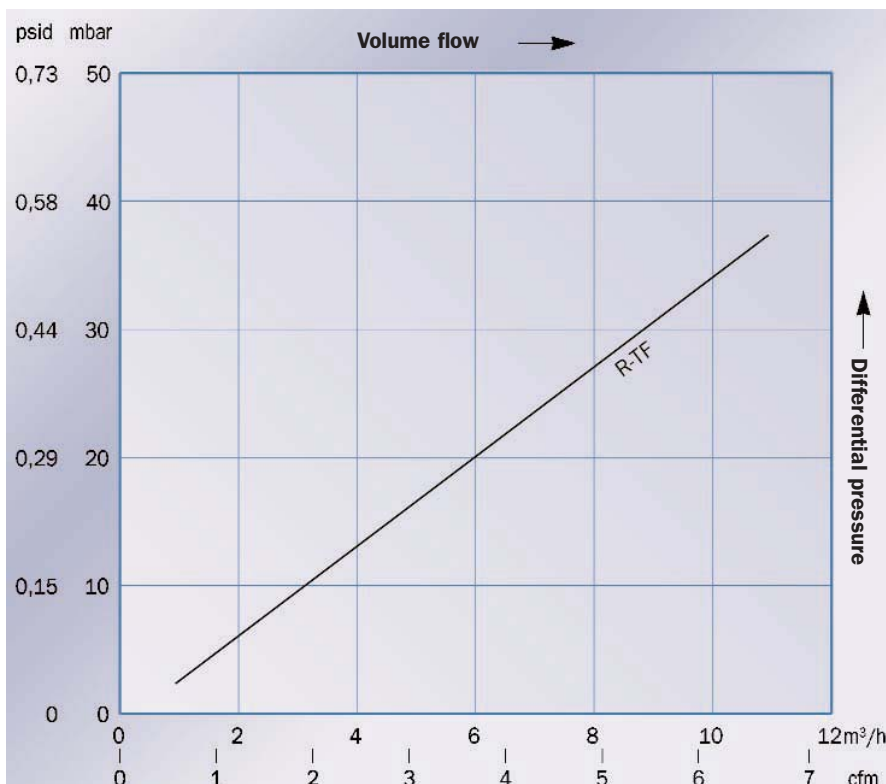
Maximum operating pressure:
20 bar

Maximum operating temperature:
120°C

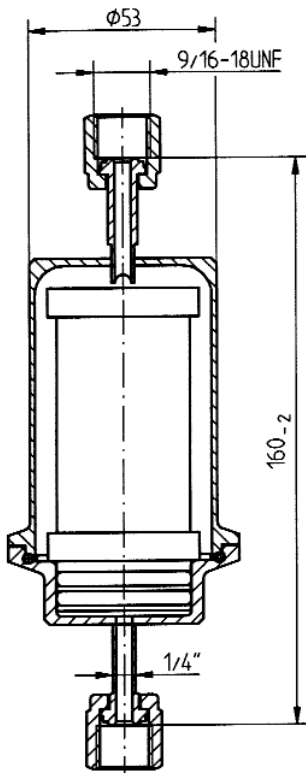
Surface characteristics:
Polished, electro-polished Ra 0.8

Types of connections:
VCR 1/4" female/female Welding ends and VCR 1/4" male/male on request

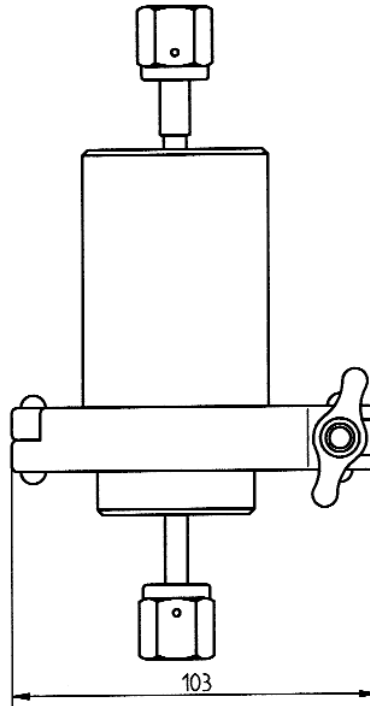
Flow rate of a R-TF element – air p = 3 bar (44 psi)



# Ultrapure R-EG



VCR 1/4" FEMALE

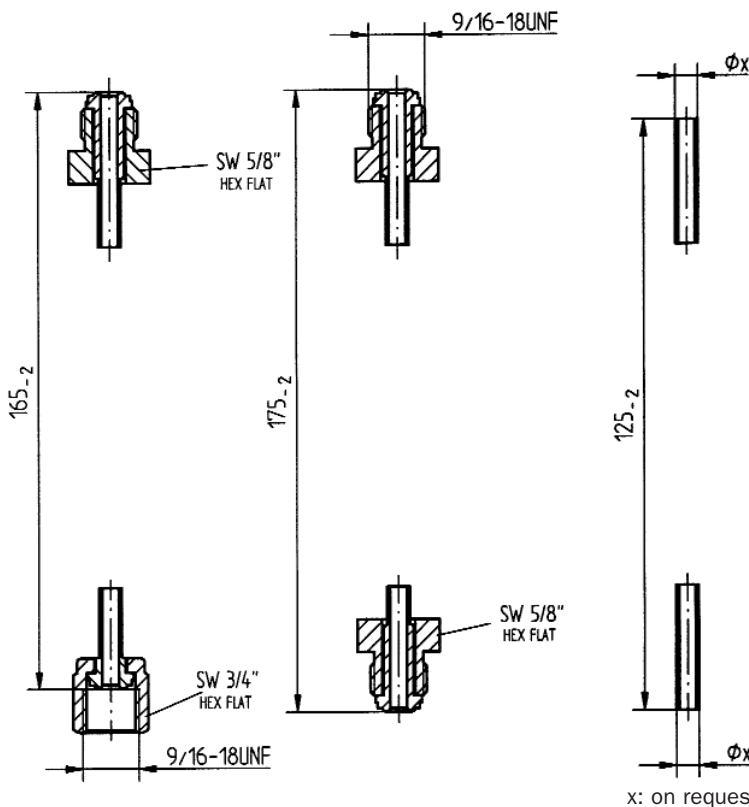


Calculation and design according to DGRL 97/23/EG and AD 2000:	
max. operating overpressure:	20 bar
Test pressure:	28.6 bar
Operating temperature:	-10 / + 120°C
Medium:	inert gases
Method of welding:	TIG
Material:	housing: 316 L clamp: 304 O-Ring: Viton (BAM-passed)
Oberfläche:	grinded and electropolished, max. Ra 0.8

VCR 1/4" MALE / FEMALE

VCR 1/4" MALE

WELDING ENDS



x: on request