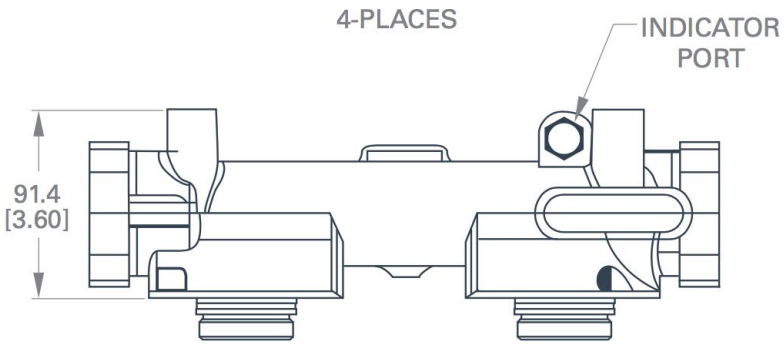
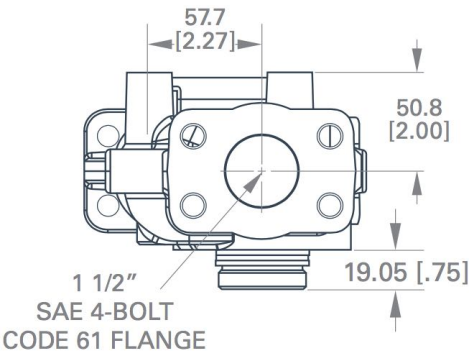
PRODUCT DATA SHEET

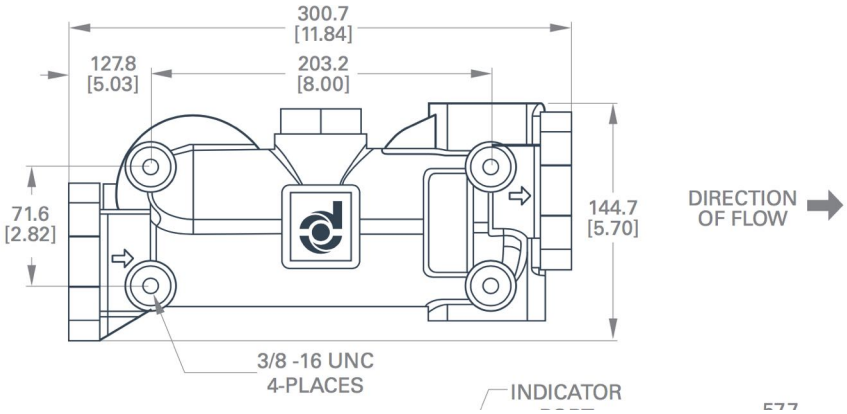
DUAL FILTER ST HEAD

Smart Filtration cast aluminium Filter Heads with steel inserts prevent excessive metal-to-metal friction and adhesion between the head and the filter. Our Dual Filter ST Heads are designed for parallel flow for the lowest pressure drop while providing Ultra High Efficiency Single Pass Filtration.

Max Flow Rate:	125 gpm / 473 lpm
Working Pressure:	350 psi / 24 bar
Rated Static Burst:	800 psi / 55 bar
Mounting Connection:	1 1/2" SAE 4-BOLT CODE 61 FLANGE
Filter Quantity:	1
Manufacturer:	Donaldson Company, Inc.
Country of Origin:	US (USA)
Gross Weight in Kilograms:	3.50







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Understanding Liquid Filter Efficiency

This information is provided as an aid to understanding filter efficiency terminology based on current ISO, ANSI and NFPA test standards.

What Is a Beta Ratio?

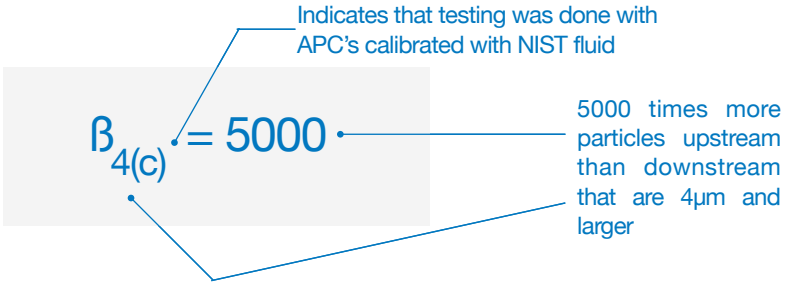
Beta ratio (symbolized by ß) is a formula used to calculate the filtration efficiency of a particular fluid filter using base data obtained from multi-pass testing.

In a multi-pass test, fluid is continuously injected with a uniform amount of contaminant (i.e., ISO medium test dust) then pumped through the filter unit being tested. Filter efficiency is determined by monitoring fluid contamination levels upstream and downstream of the test filter at specific times. An automatic particle counter is used to determine the contamination level. Through this process an upstream to downstream particle count ratio is developed, known as the beta ratio.

The formula used to calculate the beta ratio is:

$$\text{Beta ratio}_{(x)} = \frac{\text{particle count in upstream fluid}}{\text{particle count in downstream fluid}}$$

where$_{(x)}$ is a given particle size



What is Efficiency?

The beta ratio is commonly used to calculate the filtration efficiency of a filter and can be converted into a percentage of efficiency at a given particle size.

The formula used to calculate efficiency is:

$$\text{Efficiency}_{(x)} = \frac{ß - 1}{ß}$$

where$_{(x)}$ is a given particle size

ß$_{4(c)}$ = 5000 is same as 99.98% @ 4µm

ß5000 is 99.98% for particles 4µm and greater

How Big is a Micron?

Compare a micron size to these familiar particles.

Grain of table salt	100µm
Human hair	80µm
Lower limit of visibility	40µm
White blood cell	25µm
Talcum powder	10µm
Red blood cell	8µm
Bacteria	2µm
Silt	<5µm

Beta Ratio (at given particle size)	Efficiency (at the same particle size)
1.01	1.00%
1.1	9.10%
1.5	33.30%
2 (Nominal)	50.00%
5	80.00%
10	90.00%
20	95.00%
75 (Absolute)	98.70%
100	99.00%
200	99.50%
1000	99.90%
2000	99.95%
5000	99.98%

- Without Beta Ratio / Efficiency information, Micron rating alone is meaningless.
- Focus must be on Beta Ratio, rather than just Efficiency %, as we can see above, 98.70% & 99.98% might not sound too big of a difference but in Filtration World, that's a huge difference.

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