GE Healthcare
Life Sciences

To estimate your flow rate

MidGee Cross Flow Filters are available in 30, 60 and 110 cm flow path lengths (the latter two lengths with MidGee Hoop design). This allows for scale-down of existing processes (see chart):

Nominal MidGee and MidGee Hoop Cartridge Physical Properties:

Model	Nominal Lumen ID (mm)	Number of Fibers	Nominal Length (cm)	Membrane Area (cm^2)	Lumen Side Void Volume (cc)
MidGee Cartridge Style (nominal 30 cm path length)					
MM	0.5	6	30	26	0.4
	0.75	4	30	24	0.5
	1.0	2	30	16	0.5
MidGee Hoop Cartridge Style (nominal 60 cm or 110 cm path length)					
H22LA	0.75	2	60	29	0.5
	1.0	2	60	38	1.0
H24LA	0.5	4	60	42	0.6
H42LA	0.5	2	110	41	0.6
	1.0	2	110	73	2.0

The following chart summarizes the flow rates and pressure drops (pressure differential between inlet and outlet pressure expected at specific flow rates and laminar flow shear rates). In general, use 8,000-16,000 sec-1 shear flow rates for fouling feed streams (see note below). Use 4,000-8,000 sec-1 shear flow rates for non-fouling feed streams. Use 2,000-4,000 sec-1 shear flow rates for shear sensitive feed streams such as infected cells or virus solutions.

Explanatory Note: A fouling feed stream is defined as one which reaches low steadystate flux levels which are less dependent on feed concentration. Such a feed stream does not exhibit increased flux rates in response to feed stream redilution.

Nominal Cartridge Feed Flow Rate and Pressure Drop as a Function of Shear Rate

Style	Nominal Lumen ID (mm)	Shear Rate = 2,000 sec^{-1}		Shear Rate = 4,000 sec^{-1}		Shear Rate = 8,000 sec^{-1}		Shear Rate = 16,000 sec^{-1}	
		Flow (cc/min)	D P (psig)	Flow (cc/min)	D P (psig)	Flow (cc/min)	D P (psig)	Flow (cc/min)	D P (psig)
MM	0.5	12.5	0.7	25	1.5	50	2.5	100	5.5
	0.75	20	0.5	40	1	80	2	160	4
	1.0	25	0.5	50	0.75	100	1.5	200	4.5
H22LA	0.75	10	1	20	2	40	4	80	8
	1.0	25	0.8	50	1.5	100	3	200	9
H24LA	0.5	8.5	1.5	17	3	33	5	66	10
H42LA	0.5	4	2.5	8.5	5	17	10	33	19
	1.0	25	1.5	50	3	100	6	200	16

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