

# Breathing Filters/HMEs

Product name	Filter/HME TwinStar® 90	Filter/HME TwinStar® 55	Filter/HME TwinStar® 65A	Filter/HME TwinStar® 25	Filter/HME TwinStar® 8	Filter/HME TwinStar® 10A	Filter/HME TwinStar® HEPA	Filter SafeStar® 80	Filter SafeStar® 55	Filter SafeStar® 60A
Part no.	MP01800	MP01805	MP01810	MP01815	MP01820	MP01825	MP01801	MP01785	MP01790	MP01795
Deadspace (ml)	90	55	65	25	8	10	55	80	55	60
Recommended patient	adult	adult	adult	pediatric	pediatric/neonatal	pediatric/neonatal	adult	adult	adult	adult
Recommended tidal volume (ml)	300 - 1500	300 - 1500	300 - 1500	75 - 500	30 - 200	30 - 200	300 - 1500	300 - 1500	300 - 1500	300 - 1500
Bacterial retention* (%)	99.999	99.999	99.999	99.999	99.9	99.9	99.9999	99.9999	99.9999	99.9999
Viral retention* (%)	99.999	99.99	99.99	99.99	99.9	99.9	99.9999	99.9999	99.9999	99.9999
Filtration method	electrostatic	electrostatic	electrostatic	electrostatic	electrostatic	electrostatic	mechanical (HEPA***)	mechanical (HEPA***)	mechanical (HEPA***)	mechanical (HEPA***)
Fluid breakthrough at (mbar)	-	-	-	-	-	-	151	87,5	96	117
Moisture loss** (mg H <sub>2</sub> O/l air)	4.7 (@ Vt 500ml)	7.2 (@ Vt 500ml)	6.9 (@ Vt 500ml)	5.8 (@ Vt 250ml)	6.1 (@ Vt 50ml)	6.4 (@ Vt 50ml)	9.8 (@ Vt 500ml)	-	-	-
Moisture output (mg H <sub>2</sub> O/l air)	39.3	36.8	37.1	38.2	37.9	37.6	34.2	-	-	-
Resistance (mbar)	1.0 at 30 l/min 2.2 at 60 l/min 3.6 at 90 l/min	0.9 at 30 l/min 2.0 at 60 l/min 3.5 at 90 l/min	1.1 at 30 l/min 2.4 at 60 l/min 4.2 at 90 l/min	1.3 at 15 l/min 1.8 at 20 l/min 2.8 at 30 l/min	0.6 at 5 l/min 1.6 at 10 l/min 3.0 at 15 l/min	0.4 at 5 l/min 1.0 at 10 l/min 1.6 at 15 l/min	1.3 at 30 l/min 2.7 at 60 l/min 4.3 at 90 l/min	1.4 at 30 l/min 3.2 at 60 l/min 5.5 at 90 l/min	1.3 at 30 l/min 2.9 at 60 l/min 4.6 at 90 l/min	1.5 at 30 l/min 3.2 at 60 l/min 5.4 at 90 l/min
Maximum duration of use	24h	24h	24h	24h	24h	24h	24h	24h	24h	24h
Housing material	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent
Housing height (mm)	81.6	78.5	89.9	72.0	50.5	58.2	85.1	81.6	81.5	93.1
Housing diameter (mm)	80.0	68.5	68.5	48.1	36.8	36.8	68.5	80.0	68.5	68.5
Product	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free
Weight (g)	37	28	30	18	9	9	40	47	39	42
Sampling port	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock
Cap of sampling port	tethered	tethered	tethered	tethered	tethered	tethered	tethered	tethered	tethered	tethered
Connector patient-side	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F
Connector machine-side	22F / 15M	22F / 15M	22F / 15M	22F / 15M	15M / 8.5M	15M	22F / 15M	22F / 15M	22F / 15M	22F / 15M
Shelf life	3 years	3 years	3 years	3 years	3 years	3 years	5 years	5 years	5 years	5 years
Colour code	Blue	Blue	Blue	Blue	-	-	Blue	Red	Red	Red
Units/package (pcs.)	50	50	50	50	50	50	50	50	50	50

\*According to Nelson Laboratories, Inc. Salt Lake City, USA.

\*\*According to ISO EN 9360-1 (2000). \*\*\* According to EN 1822-1:1998

Cleanroom manufactured according to EN ISO 14644-1:1999

# Breathing Filters/HMEs

Product name	Filter CareStar® 45	Filter CareStar® 40A	Filter CareStar® 30	HME HumidStar® 55	HME HumidStar® 25	HME HumidStar® 10A	HME HumidStar® 2	HME HumidStar® Trach
<b>Part no.</b>	MP01755	MP01765	MP01770	MP01730	MP01735	MP01740	MP01745	MP01750
<b>Deadspace (ml)</b>	45	40	30	55	25	10	2	8
<b>Recommended patient</b>	adult	adult	adult/pediatric	adult	pediatric	pediatric/neonatal	neonatal	adult
<b>Recommended tidal volume (ml)</b>	300 - 1500	300 - 1500	100 - 1500	300 - 1500	75 - 500	30 - 200	10 - 30	100 - 1500
<b>Bacterial retention* (%)</b>	99.999	99.999	99.999	-	-	-	-	-
<b>Viral retention* (%)</b>	99.999	99.99	99.99	-	-	-	-	-
<b>Filtration method</b>	electrostatic	electrostatic	electrostatic	-	-	-	-	-
<b>Moisture loss** (mg H<sub>2</sub>O/l air)</b>	-	-	-	6.3 (@ Vt 500ml)	6.2 (@ Vt 250ml)	6.4 (@ Vt 50ml)	6.4 (@ Vt 50ml)	10.8 (@ Vt 500ml)
<b>Moisture output (mg H<sub>2</sub>O/l air)</b>	-	-	-	37.7	37.8	37.6	37.6	33.2
<b>Resistance (mbar)</b>	0.7 at 30 l/min 1.7 at 60 l/min 3.2 at 90 l/min	1.0 at 30 l/min 2.2 at 60 l/min 3.7 at 90 l/min	0.6 at 30 l/min 1.5 at 60 l/min 2.6 at 90 l/min	0.4 at 30 l/min 1.0 at 60 l/min 2.1 at 90 l/min	0.2 at 15 l/min 0.3 at 20 l/min 0.4 at 30 l/min	0.1 at 5 l/min 0.2 at 10 l/min 0.3 at 15 l/min	0.5 at 5 l/min 1.1 at 10 l/min 1.9 at 15 l/min	0.2 at 30 l/min 0.3 at 60 l/min 0.2 at 90 l/min
<b>Maximum duration of use</b>	24h	24h	24h	24h	24h	24h	24h	24h
<b>Housing material</b>	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene transparent	Polypropylene
<b>Housing height (mm)</b>	65.1	78.4	67.1	78.5	72.0	58.2	36.6	29.6
<b>Housing diameter (mm)</b>	80.0	68.5	68.5	68.5	48.1	36.8	19.0	34.0
<b>Product</b>	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free	PVC free Latex free
<b>Weight (g)</b>	29	25	23	28	18	9	3.5	4.5
<b>Sampling port</b>	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	Luer lock	-	O <sub>2</sub> port
<b>Cap of sampling port</b>	tethered	tethered	tethered	tethered	tethered	tethered	-	-
<b>Connector patient-side</b>	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	22M / 15F	15F	15F
<b>Connector machine-side</b>	22F / 15M	22F / 15M	22F / 15M	22F / 15M	22F / 15M	15M	15M	-
<b>Shelf life</b>	3 years	3 years	3 years	5 years	5 years	5 years	5 years	5 years
<b>Colour code</b>	Red	Red	Red	Green	Green	-	-	-
<b>Units/package (pcs.)</b>	50	50	50	50	50	50	50	50

Cleanroom manufactured according to EN ISO 14644-1:1999

\*According to Nelson Laboratories, Inc. Salt Lake City, USA.

\*\*According to ISO EN 9360-1 (2000).