

MVP-10 Quick Check Out & Set-up Guide

- The following steps may be performed prior to use to ensure the ventilator appears to be functioning correctly.
- A more detailed procedure is indicated in the manual for Clinical Engineering or Biomedical personnel.

Quick Performance Verification

1. Attach circuit and occlude wye.
2. Turn flow to 12 lpm.
3. Set switch to 'Cycle'.
4. Set Insp. Time to .4 and Exp. Time to .6 and verify that the ventilator cycles at a rate of 60 breaths per minute.
5. Turn PEEP knob to maximum position (fully counter-clockwise) and verify that at least 15 cm of PEEP is present on the manometer.
- 6) Turn Max. Pressure knob to maximum position (fully counter-clockwise) and verify that appropriate pressure relief (pop-off) level is present during the inspiratory phase on the manometer (Note: You may need to increase pressure relief setting). With pressure relief valve set at maximum position 65 cm of pressure should be attained.

Set-Up For Pressure Limited Ventilation



1. Attach patient circuit and occlude wye.
2. Turn flow to desired level.
3. Set switch to 'Cycle'.
4. Set desired inspiratory time.
5. Adjust expiratory time to set respiratory rate
6. Adjust pressure relief (pop-off) valve if desired to an appropriate level above intended peak pressure setting (either occlude exhalation valve or turn Max Pressure knob to max setting before setting pressure relief valve)
7. Adjust Max Pressure knob until desired Peak Pressure is observed on manometer.
8. Adjust PEEP knob until desired PEEP is displayed during expiration on manometer.

Set-Up For Volume Limited Ventilation

6. Place appropriate sized test lung on circuit (infant or pediatric depending on desired tidal volume) instead of occluding it.
7. Calculate correct flow setting using the following two formulas:
 - a. Flow Rate Multiplication Factor = $\frac{60}{\text{insp. Time (seconds)}}$
 - b. Flow Rate (liters per minute) = $\frac{\text{Desired Tidal Volume (ml)} \times \text{multiplication factor}}{1000}$
8. Ensure that Max Pressure knob is **NOT** pressure limiting the volume breath.
9. Set pressure relief valve to appropriate safety level.

MVP-10 Breath Rate Chart

		Inspiratory Time										
		0.2	0.25	0.3	0.35	0.4	0.5	0.6	0.75	1	1.5	2
Expiratory Time	0.25	133	120	109	100	92	80	70	60	48	34	27
	0.3	120	109	100	92	86	75	67	57	46	33	26
	0.35	109	100	92	86	80	71	63	55	44	32	26
	0.4	100	92	86	80	75	67	60	52	43	32	25
	0.5	86	80	75	70	67	60	55	48	40	30	24
	0.6	75	71	67	63	60	55	50	44	38	29	23
	0.75	63	60	57	55	52	48	44	49	34	27	22
	1	50	48	46	44	43	40	38	34	30	24	20
	1.5	35	34	33	32	32	30	29	27	24	20	17
	2	22	22	21	21	21	20	19	18	17	15	13

-  Typical neonatal inspiratory settings
-  Inverse I:E ratio