# Sabre Ultraviolet Disinfection Systems
# Dosage vs Flow Rate

SPECTRUM™
Literature Sheet

$$\text{Dosage } (mW.s/cm^2) = \frac{\text{Lamp Intensity } (mW) \times \text{Time } (seconds)}{\text{Surface Area } (cm^2)}$$

## SABRE SYSTEMS UV DOSAGE = 30mJ/cm²

(300J/m² or 30,000 mW.s/cm²)

- **To increase dosage, reduce the flow rate.**
- **Increased flow rates result in lower dosage.**

As flow rate increases, the time in seconds in which the water is exposed to UV light in the Reactor Chamber reduces, therefore the smaller the dosage. When SABRE Systems operate at the intended flow rate a consistent dosage of 30mJ/cm² is produced. Systems can operate at different flow rates to achieve greater dosage or higher flow rates to suit the application requirements.

**The table below shows flow rates at standard dosages for each system.**

## UV Dosage vs Flow Rate

| System Part Code | Port Size/BSP M (") | Lamp Power (W) | Flow Rate in lpm (m³/hr) at stated dosage level | | |
|---|---|---|---|---|---|
| | | | 16mJ/cm² | 30mJ/cm² | 40mJ/cm² |
| SUV-S-4-1/4 | 1/4 | 10 | 6 (0.36) | 3.8 (0.24) | 3 (0.18) |
| SUV-S-8-1/2 | 1/2 | 14 | 13 (0.78) | 7.6 (0.48) | 5 (0.3) |
| SUV-S-30-3/4 | 3/4 | 29 | 52 (3.1) | 30 (1.8) | 23 (1.4) |
| SUV-S-57-1 | 1 | 65 | 100 (6) | 57 (3.4) | 43 (2.6) |
| SUV-S-132-2 | 2 | 2 x 65 | 232 (13.9) | 132 (8) | 100 (6) |
| SUV-S-250-2 | 2 | 3 x 85 | 441 (26.5) | 250 (15) | 191 (11.5) |