

Sterilflo System[®] | Operating Room Particulate Control

Sterilflo System[®] Performance Data

STERILFLO SYSTEM®, STATIC PRESSURE REQUIREMENTS

| Pei | rimeter | Center | | | |
|----------------------------------|---|---------------------------------|---|--|--|
| CFM per Linear Foot of Plenum | Static Pressure Inches of Water Gage | CFM per Square Foot of Panel | Static Pressure Inches of Water Gage | | |
| 20 | 0.016 | 20 | 0.042 | | |
| 25 | 0.024 | 25 | 0.065 | | |
| 30 | 0.034 | 30 | 0.093 | | |
| 35 | 0.046 | 35 | 0.125 | | |
| 40 | 0.060 | 40 | 0.165 | | |
| 45 | 0.075 | 45 | 0.205 | | |
| 50 | 0.092 | 50 | 0.250 | | |

STERILFLO SYSTEM®. **NOISE CRITERIA**

| CFM per Linear Foot of Plenum | NC |
|----------------------------------|----|
| 20 | 12 |
| 25 | 18 |
| 30 | 23 |
| 35 | 28 |
| 43 | 32 |
| 45 | 35 |
| 50 | 30 |

NOTES: Static Pressure Requirements: Add pressure drop for HEPA filter if required. Static pressure based on inlet velocities not exceeding 500 fpm. Noise Criteria: NC values are based on sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Table is based on model 48 with 24' linear perimeter. For each additional 4', add 1 NC. Table is based on perimeter panel only. In a properly designed system, the center panels will not add to total room NC.

Sterilflo System[®] Typical Application •

STERILFLO SYSTEM®. MINIMUM SUGGESTED AIRFLOW

| | | PER 25 (| RIME CFM/ | | SECTION AR FOOT | 25 CF | M/SQ | UARE | FOOT | | |
|---|---|-----------------|-----------------|---------------|--------------------|---------|-------------------|--------------------------------|------|-----|--|
| | | | | | | | | | | 9' | |
| + | + | + | + | _ 1 50 | + | | _ ²² _ | 4 ₄ 37 | 0 | 8' | |
| + | + | + | + | <u>1</u> 10 | + | | - ⁴⁰ - | 45 ₊ 3 | 5 | 7' | |
| + | + | + | + | +95 | + | | + ⁴⁰ - | 435 ₊ 3 | 5 | 6' | |
| + | + | 40 + | _ ⁶⁵ | +70 | _ ³⁵ | | _35 _ | ₊ 35 ₊ 3 | 5 | 5' | |
| + | + | _ ³⁵ | + ⁵⁰ | +35 | + | | _ ³⁰ _ | 25 ₊ 3 | 0 | 4' | |
| + | + | _ ³⁵ | +35 | + | + | (|).R. 1 | ABLE | | 3' | |
| + | + | + | + | + | + GRID | | 5 | 7 | | 2' | |
| + | + | + | + | + | | NG = 1' | | | | _1' | |

STERILFLO SYSTEM®. MAXIMUM SUGGESTED AIRFLOW

| | | | PER 45 C | IME FM/I | | SECTION AR FOOT | CENTER SECTION 45 CFM/SQUARE FOOT | | | |
|---|---|---|-----------------|-----------------|------------------|--------------------|--------------------------------------|---------|-----------------|----|
| _ | | | | | | | | | | 9' |
| | + | + | + | + | ₁ 155 | + | | _35 _50 | ₊ 50 | 8' |
| | + | + | + | + | <u>1</u> 30 | + | | _45 _45 | ₊ 45 | 7' |
| | + | + | + | + | <u>1</u> 15 | + | | _30 _45 | ₊ 40 | 6' |
| | + | + | + | + | ₊ 80 | + | | _30 _40 | ₊ 30 | 5' |
| | + | + | ₊ 40 | ₊ 55 | ₊ 75 | ₊ 50 | | _30 _33 | ₊ 30 | 4' |
| | + | + | ₊ 35 | ₊ 55 | ₊ 65 | ₊ 40 | | | | 3' |
| | + | + | ₊ 35 | ₊ 45 | ₊ 45 | ₊ 40 | | | | 2' |
| | + | + | + | ₊ 35 | ₊ 35 | GRID | NG = 1 | . | | 1' |
| _ | | | | | | | | | | |

NOTE: Velocity profiles in 1'x1' grid.

Sterilflo System[®] Conclusion

Modern operating rooms require an air distribution system that will reduce the possibility of nosocomial infections being acquired by the patient during surgery. They must additionally permit the placement of tools useful to the surgeon as he or she undertakes a procedure demanding skill and concentration.

Krueger has made such a system a reality with the selfcontained Sterilflo System®. This unique dual-component system utilizes a protective sheath of air forming a cube that surrounds the patient and the surgical staff. Within the cube, defined by this protective sheath, special pressure plenums provide a constant supply of clean gently cascading air. The "piston effect" of this low velocity air mass maintains positive pressure inside the protective sheath. Contaminated air forced out of the cube impinges upon, but cannot penetrate the curtain, or protective sheath. It is contained away from the operative area until it is flushed from the room through the return grilles. Meanwhile, the patient and surgical staff are continuously bathed in clean air from the center panels.

The Sterilflo System® curtain creates, in effect, a separate area within the operating room. Since all supply air is introduced into this area, the air change rate inside the curtain is many times higher than the calculated room air change rate. This provides for much higher dilutions of airborne particulate matter.

In essence, forced clean air, which is comfort conditioned depending on the surgical requirements, creates a cube from ceiling to floor surrounding the patient and surgical team.

S Learn more about how this system can protect surgical Т patients from post-operative infection. You are invited to attend a seminar and system demonstration at our research facility in Richardson, TX or you may arrange to have a qualified representative make a presentation at your facility. For complete details, or to request additional information, contact Krueger or your local Krueger representative.