

INTRODUCING

NOMAD™



CORDLESS HAND-HELD DENTAL X-RAY UNIT

NOT FOR SALE IN THE USA

 **ARIBA**

NOMAD™ INTRA-ORAL X-RAY UNIT

- ***TRULY* PORTABLE**
- **HANDHELD**
- **BATTERY POWERED**
- **LIGHTWEIGHT ~ 3.7 kg**
- **CORDLESS**



 **ARIBA**

HAND-HELD X-RAY UNITS ALREADY IN USA:

- **FLOW X-RAY HDX:**
**HAND-HELD PORTABLE
INTRA-ORAL DENTAL X-RAY
UNIT (FDA 510(k) CLEARED)**

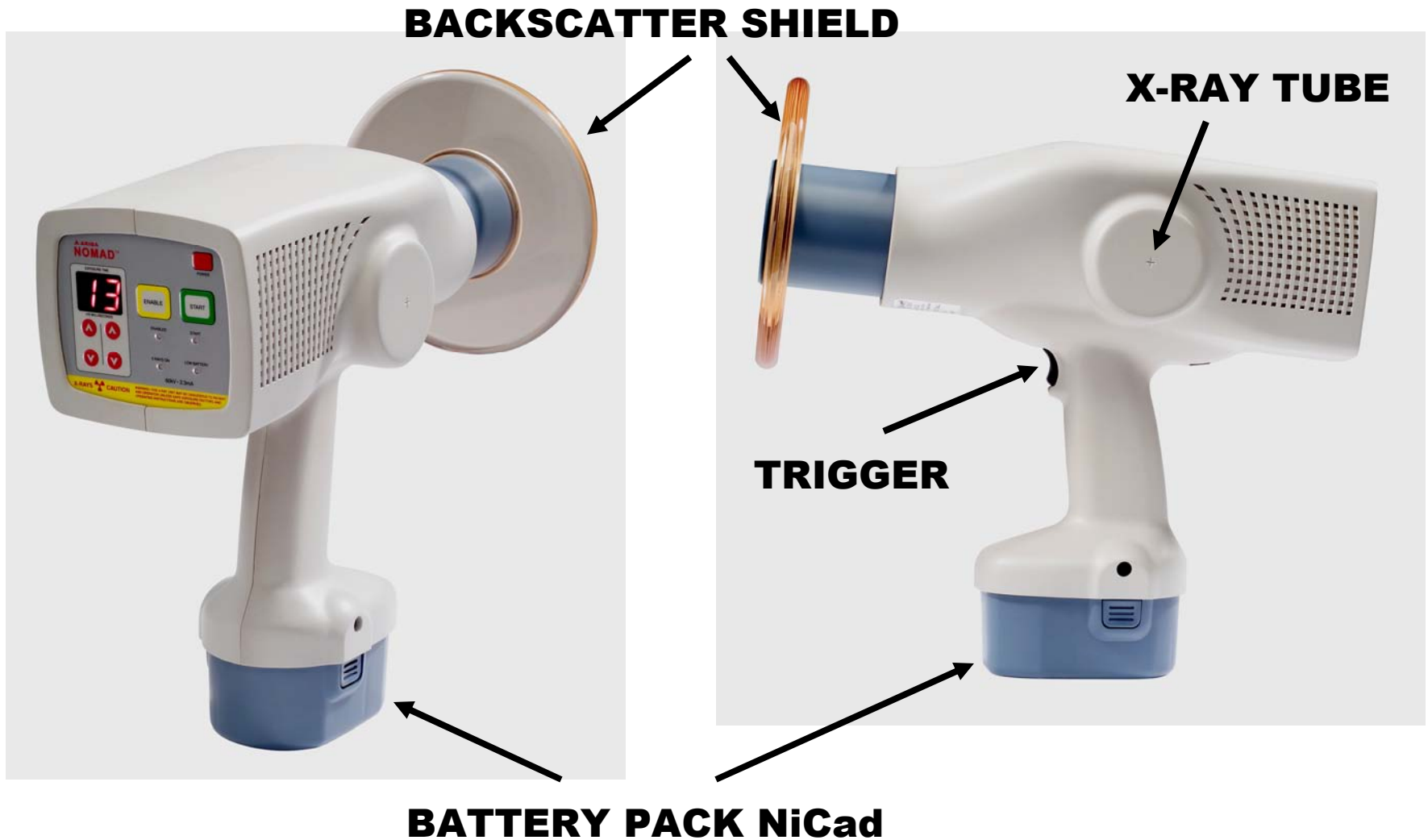


- **NITON: PORTABLE XRF ANALYSIS**



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BACKSCATTER SHIELD

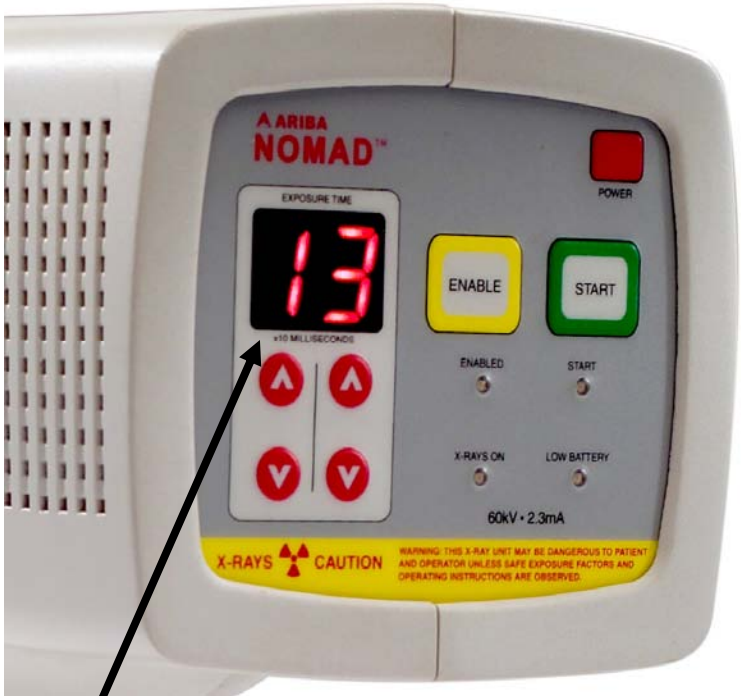
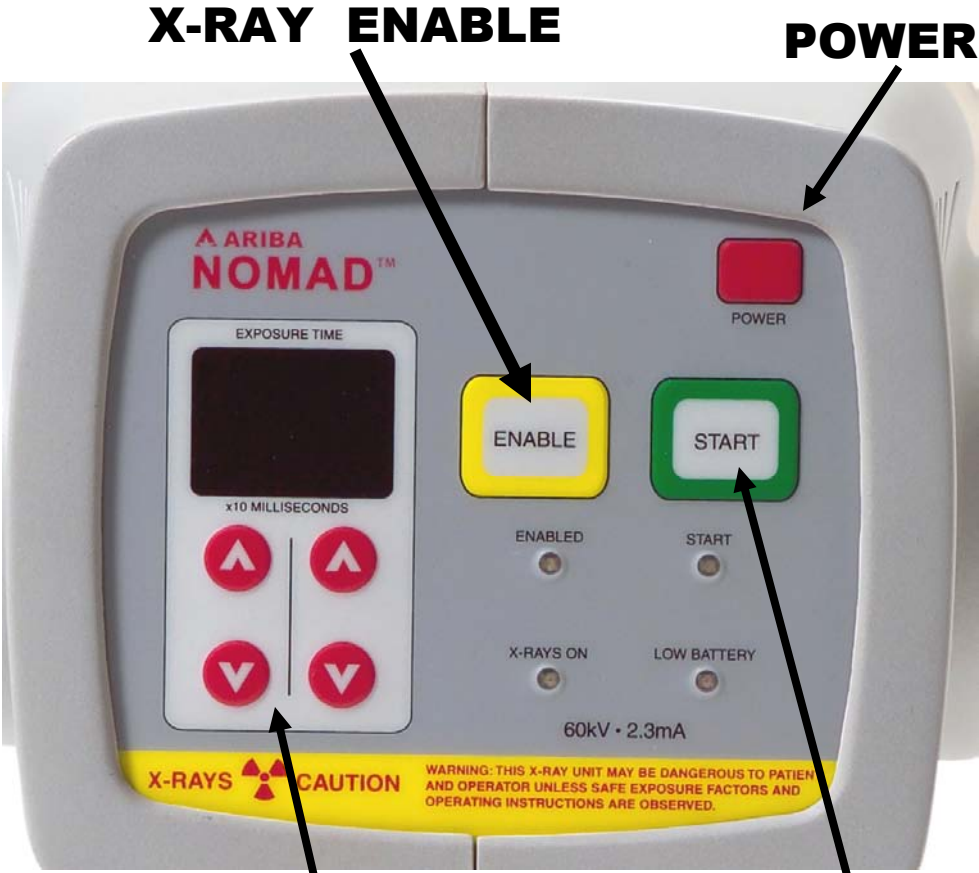
FRONT VIEW



BACK CONTROL PANEL



NOMAD™



**SCROLLING TIME SET
ENTRY KEYS
0.1S AND 0.01S**

START EXPOSURE

**DISPLAY EXAMPLE:
10X mSec (0.13 Sec)**



NOMAD™ SPECIFICATIONS

- **RECHARGEABLE NiCad BATTERY** **14.4V**
- **# EXPOSURES PER CHARGE** **100 – 700**
- **EXPOSURE TIME RANGE, S** **0.01 – 0.99**
- **ANODE VOLTAGE** **60KV DC**
- **ANODE CURRENT** **2.3 mA**
- **FOCAL SPOT SIZE** **0.4 mm**



NOMAD™ SPECIFICATIONS

- **MIN INHERENT FILTRATION** **1.5mm Al**
- **SOURCE TO SKIN DISTANCE** **20cm**
- **X-RAY FIELD** **60mm Round**
- **MAXIMUM DUTY CYCLE** **1s:60s**
- **TOTAL WEIGHT** **<4kg**



UNIQUE SAFETY CHARACTERISTICS

- **LOW OPERATOR RADIATION EXPOSURE**
- **DC – CONSTANT KV OUTPUT:**
 - **LESS PATIENT EXPOSURE**
 - **NO LINE FLUCTUATIONS (FEWER RETAKES)**
- **60KV 2.3mA: LESS RADIATION PRODUCTION**
- **DIGITAL IMAGING – 10X LESS EXPOSURE**
- **EASE OF USE: FEWER MISTAKES / RETAKES**



UNIQUE SAFETY CHARACTERISTICS

- **X-RAY 'ENABLE' SAFETY SWITCH:**
 - **PREVENT ACCIDENTAL EXPOSURE**
- **LOW BATTERY INDICATOR / SHUT-OFF**
 - **PREVENT BAD EXPOSURES & RETAKES**
- **UNDER-EXPOSE SHUT-OFF CIRCUIT**
- **OVERHEAT SHUT-OFF CIRCUIT**
 - **MAINTAIN PROPER DUTY CYCLE**

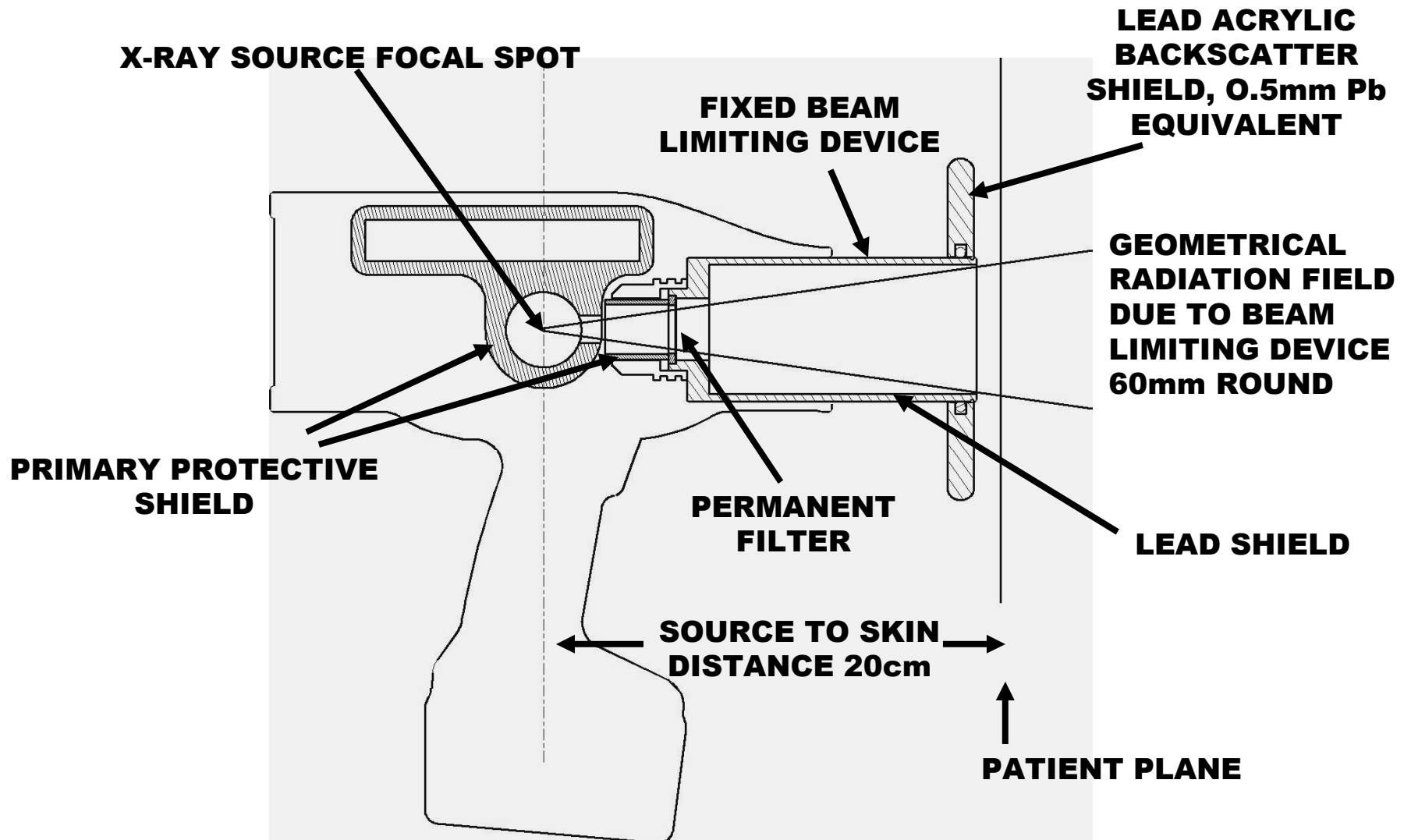
RADIATION SAFETY

- **LEAKAGE LOWER THAN FDA STANDARD**
- **SHIELDED X-RAY TUBE AND HARDWARE**
- **EXTERNAL X-RAY BACKSCATTER SHIELD**
- **“ENABLE” FAIL-SAFE SWITCH**



RADIATION SAFETY

CROSS SECTION OF NOMAD INDICATING OPERATOR / PATIENT SHIELDING



RADIATION SAFETY: LEAKAGE

Radiation Leakage Measurements (UL Test). See following graphs

| Site | 021405-01 | 021405-02 | 021405-03 | Serial # | 021405-02 | 021405-03 |
|------|--------------------|--------------------|--------------------|----------------------|----------------|----------------|
| | 100 cm from source | 100 cm from source | 100 cm from source | Distance from source | 5 cm from case | 5 cm from case |
| | mR/hr | mR/hr | mR/hr | Units | mR/hr | mR/hr |
| A | ND | ND | ND | | 0.84 | 0.12 |
| B | ND | ND | ND | | 0.48 | 0.72 |
| C | ND | ND | ND | | 1.44 | 0.72 |
| D | ND | ND | ND | | 1.32 | 1.92 |
| E | ND | ND | ND | | 0.84 | 2.28 |
| G | ND | ND | ND | | 1.32 | 2.16 |
| H | ND | ND | ND | | 2.16 | 2.28 |
| I | ND | ND | ND | | 2.88 | 2.04 |
| K | ND | ND | ND | | 0.12 | ND |
| L | ND | ND | ND | | ND | ND |
| M | ND | ND | ND | | ND | ND |
| Max | ND | ND | ND | | 2.88 | 2.04 |

ND – None detected. Detection limit is 0.001mR per exposure (0.06mR/hour at 1:60 duty cycle and maximum exposure time of 0.99 seconds.)

Note: Full duty cycle corresponds to 60 to 600 exposures / hr



RADIATION SAFETY: LEAKAGE COMPARED TO CONVENTIONAL WALL-MOUNT X-RAY HEAD

Table 2. Radiation Leakage Measurements from traditional wall-mount systems.

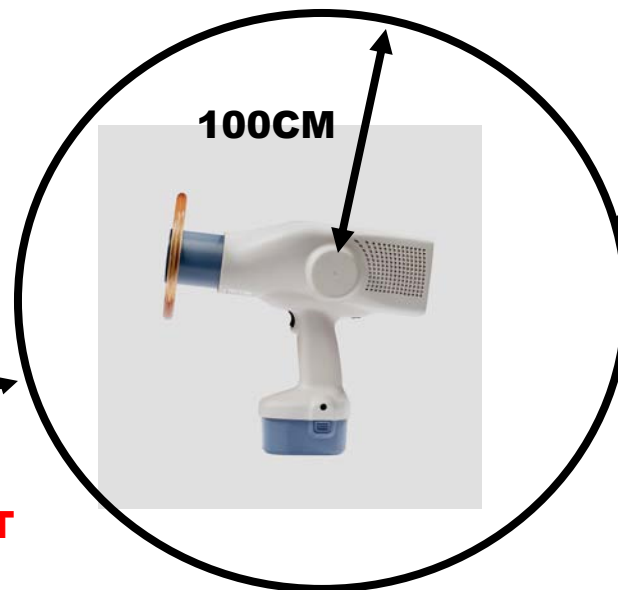
| Site | A | A | Unit # Distance from source Units | B | B |
|------|--------------------------------|----------------------------|--|--------------------------------|----------------------------|
| | 100 cm from source mR/hr | 5 cm from case mR/hr | | 100 cm from source mR/hr | 5 cm from case mR/hr |
| A | | 8.28 | | 1.44 | 12.6 |
| B | | 1.08 | | 0.18 | |
| C | | | | | |
| D | | | | | |
| E | 1.44 | 39.6 | | | |
| G | | 24.0 | | | |
| H | | 27.5 | | | 6.48 |
| I | | 3.21 | | | 6.30 |
| K | | 6.12 | | 0.36 | 5.58 |
| L | | 1.26 | | | ND |
| M | | 4.26 | | | 6.30 |
| | | | | | |
| Max | 1.44 | 39.6 | | 1.44 | 12.6 |

Data assumes 1s:60s duty cycle, max exposure 1s



RADIATION SAFETY: LEAKAGE PER FDA SPEC 21 CFR §1020.30(k)

- **FDA STANDARD:**
 - **< 100 mR / hr at full duty cycle at 100cm from source**
- **MEASURED LEAKAGE RADIATION:**
 - **NOMAD LESS THAN 0.06 mR / hr**
 - **CONVENTIONAL WALL-MOUNT 1.46 mR/hr**

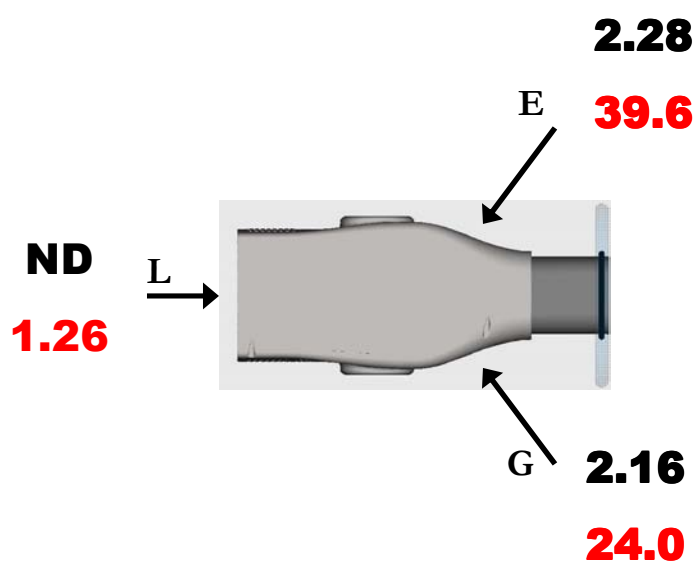
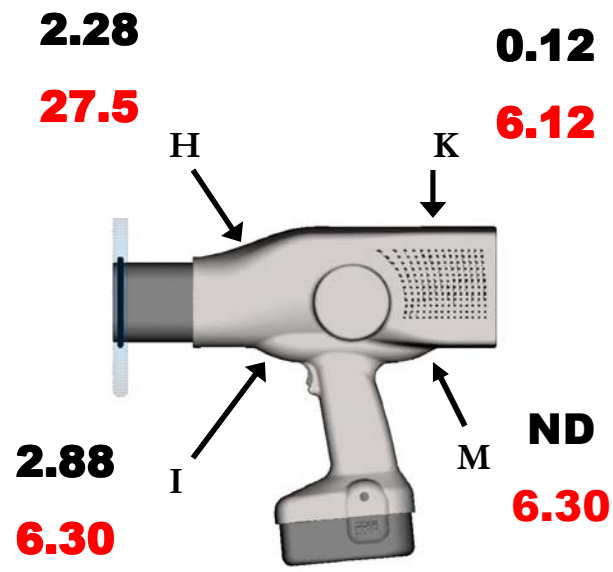
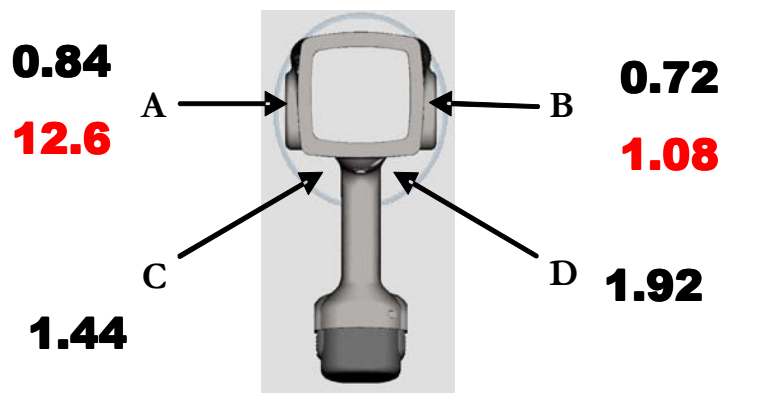


**NOMAD RADIATION WAS
BELOW DETECTABLE LIMIT**

**CONVENTIONAL WALL-MOUNT
LEAKAGE: 1.46mr/hr**

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RADIATION SAFETY: NOMAD vs WALL-MOUNT LEAKAGE DATA @ 5cm FROM ACCESSIBLE SURFACE



UNITS: maximum detected mR/hr 1:60 duty cycle. (NOMAD) (WALL-MOUNT)

