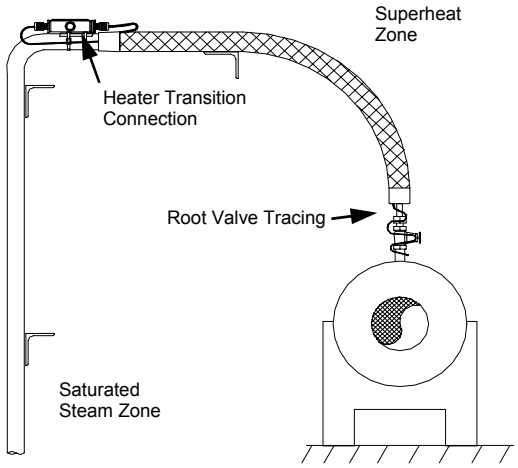
# Dekoron/Unitherm 2A53 / 2A63 Composite Steam Transport and Analyzer Bundle

### *Principle of Operation*

The Dekoron/Unitherm 2A53/2A63 is uniquely constructed to handle the requirements of superheated steam analyzer applications.

This product consists of a single or dual seamless metal process tube, divided into two operating zones. The superheat zone is designed to handle high operating temperatures and features a high temperature resistance heating element, high temperature composite insulation, reinforced silicone weatherproofing and an overall stainless steel braid. The saturated steam zone is designed for increased flexibility where high temperature operation is not required and uses a Self Regulating heating element, fibrous glass thermal insulation and an extruded outer jacket.




### *Features*

- Continuous sample tube, no fittings to leak
- Field trimmable heating element
- Bundle provides tracing for root valve
- Reduced bundle diameter for easier handling
- Superheat section jacket good to 200°C
- Choice of jacket materials in vapor section
- Tight Minimum Bend Radius allows use of standard bundle supports and trays
- Single power connection for both heating zones
- Heating elements suitable for ordinary and hazardous locations
- High temperature end pre-finished

### *Application*

- Superheated steam analyzer lines

### *How to Specify*

***Example:***

**2A53-4700-20-1-1-20-05-12**

Dekoron/Unitherm composite high temperature analyzer bundle, one 1/2" OD x 0.049" wall Seamless Type 316 Stainless Steel process tube, bundle designed for 1100ºF superheated steam operation, heaters operating at 120 VAC, superheat zone length 20 feet with 5 feet of MI heating cable at end of cable for tracing root valve, saturated steam zone has 105ºC FRPVC outer jacket, heating cables manufactured by Tyco Thermal Controls.

### *How to Order*

**Model Number***

2 A 5 3 - X X 0 0 - X 0 - X - X - X X - X X - X X

2 A 6 3 - X X X X - X X - X - X - X X - X X - X X

Single or Dual Tube

Tube 1

Tube 2

Process Tube O.D.
2 = 1/4"
3 = 3/8"
4 = 1/2"
N = 6mm
Q = 10mm

Process Tube Material
7 = 316 SS Seamless

Process Temp Code
1 = 1100F
2 = 1000F
3 = 900F

Length of Superheat Section of Bundle (Feet)

Heater Mfg.
1=RSCC
2=Tyco

Voltage Code
1 = 120 V
2 = 208 V
3 = 230 V
4 = 277 V

Length of Saturated Section of Bundle (Feet)

Wall Thickness Code Tube 1 / 2
1 = 0.035" / 1mm
2 = 0.049" / 1.5 mm
3 = 0.065" / 2 mm

Jacket Material Code
1 = FRPVC 3 = FRTPU
2 = FRTPE

*Note: A unique stock number will be assigned to each design to insure tracability.

# Technical Information *DEKORON®/UNITHERM™*

**Product Characteristics**
Maximum Operating Temperature - 1100°F (593°C) at 120°F (49°C) ambient
Maximum Operating Pressure - 2500 psig (172 Barg)
Design Maintenance Temperature - Freeze protection at ambient temperature to –40°F (-40°C)
Outer Jacket Temperature; Superheat Section - 210°F (99°C), Saturated Section - 140°F (60°C)
Superheat zone length - 20 ft (6 m) (for 1100°F, 2500 psig operation)
Minimum Bend Radius; Superheat Section—18 inches (450 mm) or less
Saturated Section— 14 inches (305 mm) or less

**Electrical Specifications**

| | |
|---|---|
| Self-Limiting Heater | RSCC 2000 / 2300 Series **-or-** Tyco Thermal XTV Series |
| Power | 5 wt/ft thru 20 w/ft 120 to 277 VAC |
| MI Heater | 2-wire High Temp 300 Volt Rated |
| Max Circuit Length | Varies based on heater used for saturated zone. |

**Tubing Design Pressures - ASME B31.1-2004**
Type 316 Seamless Stainless Steel Tubing to ASTM A-213

| Tube OD / Wall | 400F | 800F | 1100F |
|---|---|---|---|
| 1/4" x .035 | 3595 | 2964 | 2865 |
| 1/4" x .049 | 5300 | 4370 | 4291 |
| 3/8" x .049 | 3327 | 2743 | 2645 |
| 3/8" x .065 | 4588 | 3873 | 3690 |
| 1/2" x .049 | 2424 | 1999 | 1912 |
| 1/2" x .065 | 3308 | 2728 | 2630 |
| 6mm x 1mm | 4342 | 3580 | 3484 |
| 10mm x 1.5mm | 3890 | 3198 | 3100 |
| 10mm x 2mm | 5445 | 4490 | 4414 |

**Dimensional Data** Nominal OD
Superheat Zone: 1 - 3/8" Tube - 2.25" (57 mm)
2 - 1/2" Tubes - 2.5" (64 mm)

Saturated Steam Zone: 1 - 3/8" Tube - 1.8" (46 mm)
2 - 1/2" Tubes - 2.0" (51 mm)

**Installation Recommendations**

Support Centers: Superheat Zone

Horizontal - 10 ft (3 m)
Vertical - 15 ft (4.5 m)
Support close to root valve, allow free movement in bend for thermal expansion.

Saturated Steam Zone

Horizontal - 6 ft (2 m)
Vertical - 15 ft (4.5 m)

Minimum Installation Temperature:

FRPVC Jacket: +15ºF (-9.4ºC)
FRTPE Jacket: -30ºF (-34ºC)
FRTPU Jacket: -58ºF (-50ºC)

Root Valve Tracing:

Bundles can be ordered with MI heater extending from the end to trace the root valve(s). The installer should insure that sound installation practices are used and that all local and national safety codes are followed.