

UNITHERM™ HEATED HOSE PRODUCTS

SERIES 200 ELECTRICALLY HEATED HIGH TEMPERATURE FLUOROPOLYMER TUBING

Description

UNITHERM's series 200 hoses feature a smooth bore, Fluoropolymer core, which is electrically heated for operation to 450°F (232°C). The hoses are flexible and can be operated in continuous movement conditions. The heating element is nickel alloy wire; spiral wound to extremely close tolerances, providing optimum temperature uniformity throughout the entire length. The heating element is insulated within multiple layers of high temperature insulation. Two thickness of thermal insulation are available with tough, extruded polyurethane jacket for outdoor service or an abrasion resistant, braided polyester sleeve for indoor use. All hoses are supplied electrically and hydraulically complete, ready to use.

Features

- Operating Voltage

Any single-phase voltage to 480 VAC. Depending on length hoses may be ordered to operate on 240 or 480 VA, three-phase.

- Power Density

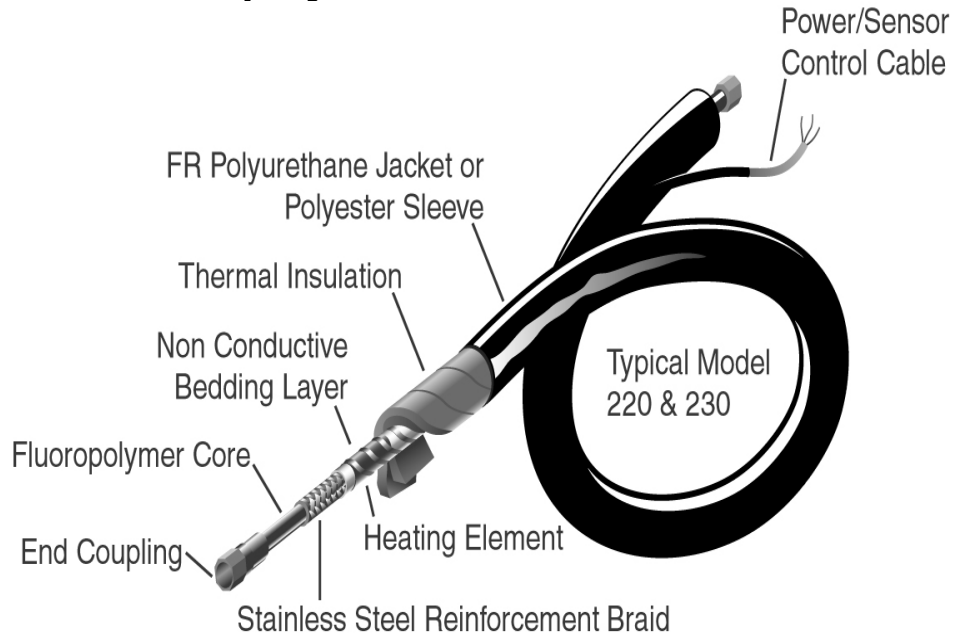
Up to 200 watts/ft. Power Density is based on the desired operating temperature, lowest ambient temperature and size of hose.

Temperature Control

Series 200 hoses must be controlled (except for the self-limiting (SL) version) to maintain the desired operating temperature. A temperature sensor is installed during construction and, unless otherwise specified, will be installed 3' from the power of the hose.

Dekoron/Unitherm's core expertise is thermal management. We build devices to maintain temperature or retard heat loss. Our expertise is what goes around the core. The expertise we attain in core material selection comes from successful use in similar applications. The ultimate responsibility for material selection is the customer's responsibility.

FORM 200HH40903



This picture shows only one of many constructions available

How to order Series 200

Model No.	Tube Size	Hose Length Feet	Temperature Sensor	Operating Voltage	Fittings
210 Low Pressure 220 Medium Pressure 230 High Pressure	From Specification Chart	1 ft. Increments	J= Type J Thermocouple K= Type K Thermocouple T= Thermistor R= RTD (100 OHM) N= No Sensor	Indicate actual Voltage	J=JIC female Swivel J/TA= JIC female swivel with tube adapter M= Male Pipe (NPT) T=Tube for Compression Fitting
EXAMPLE 210-5-12ft.N-115-T					

Typical Application

Application	Type of use
Gas Sampling	-Stack Gas -Instrumentation
Product Transfer	-Engine Emissions -Process Lines
Viscosity Control	Foods, Oil, Fats, Chemicals, Wax Paint, Ink, Coatings

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Model 210 Low Pressure Specifications – to 450°F (232°C)

Tube Size	I.D.	O.D.	Nominal Finished Diameter		Maximum Operating Pressure*	Minimum Bend Radius	Nominal Weight Lb/Ft.
			1/4"	1/2"			
4	.150"	.250"	1.00"	1.50"	300 PSI	10"	.40
5	.210"	.312"	1.10"	1.60"	300 PSI	11"	.42
6	.251"	.375"	1.20"	1.70"	300 PSI	12"	.45
8	.375"	.500"	1.30"	1.80"	200 PSI	14"	.54

Model 220 Medium Pressure Specifications – to 450°F (232°C)

Tube Size	Inside Diameter	Nominal Finished Diameter		Maximum Operating Pressure**	Minimum Burst Pressure	Minimum Bend Radius	Nominal Weight Lb/Ft.
		1/4"	1/2"				
4	.187"	1.00"	1.50"	1500 PSI	6000 PSI	10"	.44
5	.250"	1.10"	1.60"	1500 PSI	6000 PSI	11"	.46
6	.312"	1.25"	1.75"	1500 PSI	6000 PSI	12"	.50
8	.405"	1.375"	1.875"	1500 PSI	6000 PSI	14"	.57
10	.500"	1.55"	2.05"	1000 PSI	4000 PSI	16"	.62
12	.625"	1.625"	2.125"	900 PSI	3500 PSI	17"	.69
16	.875"	1.875"	2.375"	800 PSI	3200 PSI	19"	.95
20	1.062"	2.125"	2.625"	600 PSI	2400 PSI	24"	1.48
***24	1.375"	2.75"	3.25"	800 PSI	3200 PSI	32"	2.05

Model 230 High Pressure Specifications – to 400°F (204°C)

Tube Size	Inside Diameter	Nominal Finished Diameter		Maximum Operating Pressure*	Minimum Burst Pressure	Minimum Bend Radius	Nominal Weight Lb/Ft.
		1/4"	1/2"				
4	.229"	1.20"	1.70"	3000 PSI	12000 PSI	10"	.60
6	.300"	1.45"	1.95"	3000 PSI	12000 PSI	12"	.81
8	.395"	1.60"	2.10"	3000 PSI	12000 PSI	14"	.96
12	.650"	1.75"	2.25"	3000 PSI	12000 PSI	16"	1.48
16	.875"	2.25"	2.75"	3000 PSI	9000 PSI	18"	1.48
20	1.118"	2.65"	3.20"	3000 PSI	9000 PSI	22"	2.05
***24	1.375"	2.95"	3.25"	3000 PSI	9000 PSI	26"	3.40

* At 400°F (204°C) ** 450°F (232°F) *** Features Double Stainless Steel Braid

Construction

Core Material	Smooth bore Fluoropolymer core
Reinforcement	Model 210 Low Pressure , Copper Braid (Low Density Coverage) Model 220 Medium Pressure , 100% Coverage S.S. Braid Model 230 High Pressure , S.S. Braid / Multiple layers
Heating Element	Constant Power Density and Self-Limiting, Fiberglass reinforced, silicone rubber
Electrical Insulation	Fiberglass reinforced silicone rubber
Thermal Insulation	1/4" reinforced fiberglass (temperatures to 300°F) 1/2" reinforced fiberglass (Temperatures above 300°F)
External Jacket	Indoor Service – Abrasion resistant braided polyester sleeve Outdoor Service – tough, extruded flame-retardant polyurethane
Fittings	1. JIC Female Swivel (37° seat) 2. JIC Female Swivel with Tube Adapter 3. Male NPT 4. Tube for Compression Fitting
Power/Control Cable	Standard length is six (6) feet. Longer lengths are available. Optional electrical connectors can be provided.