DYNAFLEX™ HOSES

Description

Adhesive supply hoses are electrically-heated, flexible conduits designed for the transfer of hot-melt material from an adhesive supply unit (ASU) to an applicator (head or handgun). Hoses are heated by resistance heaters which are wrapped around the hose core and covered with a high-temperature insulation. Hose temperature is regulated by the ASU's controller. A sensor located in the hose provides temperature information to the controller.

DYNACONTROL (DCL) hoses are 1000 psi (69 bar) hoses used to deliver hot-melt material from a Dynamelt or Dynamini ASU to an ITW Dynatec applicator (either a dispensing head or a hand-held applicator). These hoses provide through wiring for power, sensor and chassis ground in the applicator. All Dynacontrol hoses feature PT-100 RTD sensors.

Washdown hose models are available. They consist of a standard hose, made water resistant with the addition of a seamless flexible sleeving, sealed end cuffs and liquid-tight electrical conduit and fittings.

Specifications

	Standard	Option (Dynamelt M only)
Hose Size	#6 Hose	#8 Hose or #12 Hose
Wattage	30 - 45 watts/foot (depending on supply voltage)	50 watts/foot (7/16") 60 watts/foot (5/8")
End Couplings	#6 Hose female swivel at both ends	#8 Hose #12 Hose, female swivel at both ends
	All Dynacontrol Hoses	
Sensor	100 Ohm Platinum RTD (coefficient = 0.00385 Ohm/ Ohm/ °C)	
Wiring	Uses 1000 VAC 500°F (260°C) nickel-plated copper multi-strand, TFE insulated.	
Flex Hose	Smooth innercore of extruded TFE (nominal thickness 0.030) with type 304 stainless steel wire braid reinforcement.	
Maximum Operating Temperature	425°F (218°C) continuous 500°F (260°C) intermittent	
Maximum Operating Pressure	1000 PSI (69 bar) at 425°F (218°C)	

cont.

Specifications, cont.

Minimum Burst Pressure . . . . . 7500 PSI (510 bar) at 425°F (218°C)

Maintenance . . . . . None required in this application.

Spare Parts . . . . . No user-replaceable parts.

Hose Tag Information . . . . . MANUFACTURER
PART NUMBER
LENGTH
INSIDE DIAMETER
DATE OF MANUFACTURE
SERIAL NUMBER

CE . . . . . Yes

Installation Instructions

Before installing any hose to an ASU, make sure the ASU's power switch is OFF.

DANGER HIGH VOLTAGE

ITW Dynatec systems use electrical power that can be life threatening. Disconnect and lock out input power to the application system before connecting, disconnecting or troubleshooting any hose(s).

Refer to Chapter 3 of the adhesive application unit's manual for hose installation location, instructions and an illustration specific to your ASU.

Dynaflex hoses connect to the ASU with both an adhesive port connection on the filter outlet manifold and a 15-pin electrical connector. The opposite end of the hose connects to the applicator (head or handgun) with both an adhesive inlet connection and a 9-pin electrical connector.

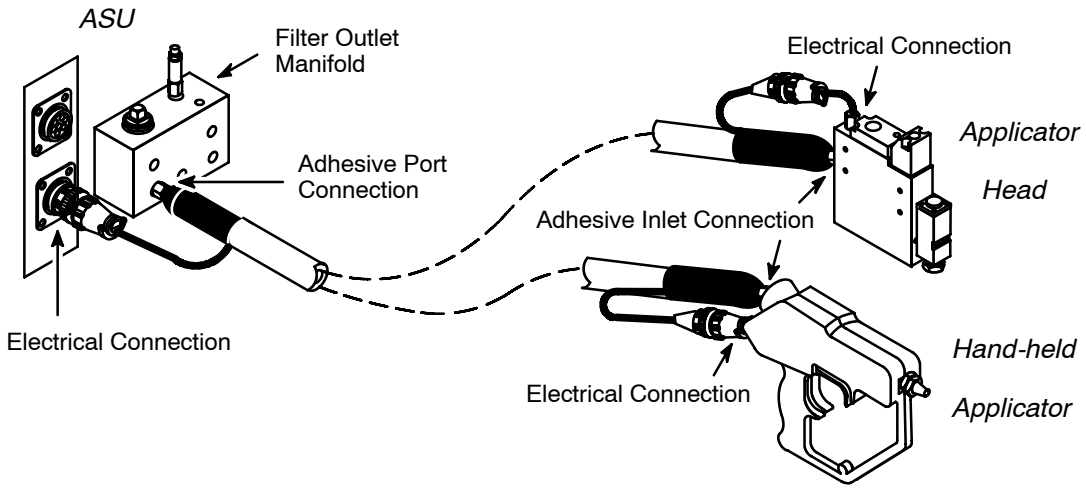
Refer to the Hose Installation Diagram on page 3 as a general guide. Observe the following cautions when connecting and routing adhesive hoses.

CAUTION: When tightening hose swivel fittings, hold the hose and cuff to prevent the hose from rotating.

CAUTION: If the hose is cold and contains adhesive, it may be damaged if bent. To avoid this, turn on power to the hoses and wait until the ASU's readout indicates that they are at operating temperature before routing them around surrounding machinery.

CAUTION: Do not allow hose to be covered by machinery or by any type of solid conduit, pipe, tubing, etc.

CAUTION: Maintain a minimum of 1/2" clearance between adjacent hoses.



Hose Installation Diagram: ASU to Automatic or Hand Applicator

To Disconnect Hose from ASU or Applicator

Never attempt to disconnect a hose from its adhesive port without first assuring that all system pressure has been relieved.

WARNING: HIGH PRESSURE, HOT ADHESIVE

When disconnecting a hose or hose cap, hot adhesive can escape from both the manifold and from the end of the hose under high pressure. Wear a face shield, gloves and protective clothing. Stand clear until all pressure is relieved.

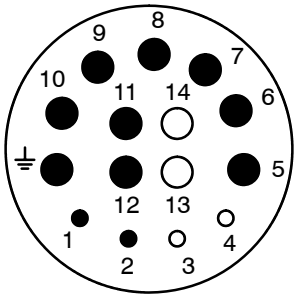
Before disconnecting a hose, turn the ASU's pump/motor OFF. Then activate the applicator to relieve adhesive pressure in the system.

To Check Temperature Sensor Resistance

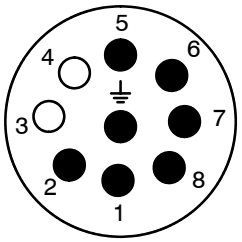
When temperature sensor resistance is being verified, refer to the Resistance Table in Chapter 7 of the ASU's manual. The temperature sensor in Dynacontrol hoses is a 100 Ohm platinum RTD. The temperature coefficient is 0.00385 Ohms/ Ohm/ °C.

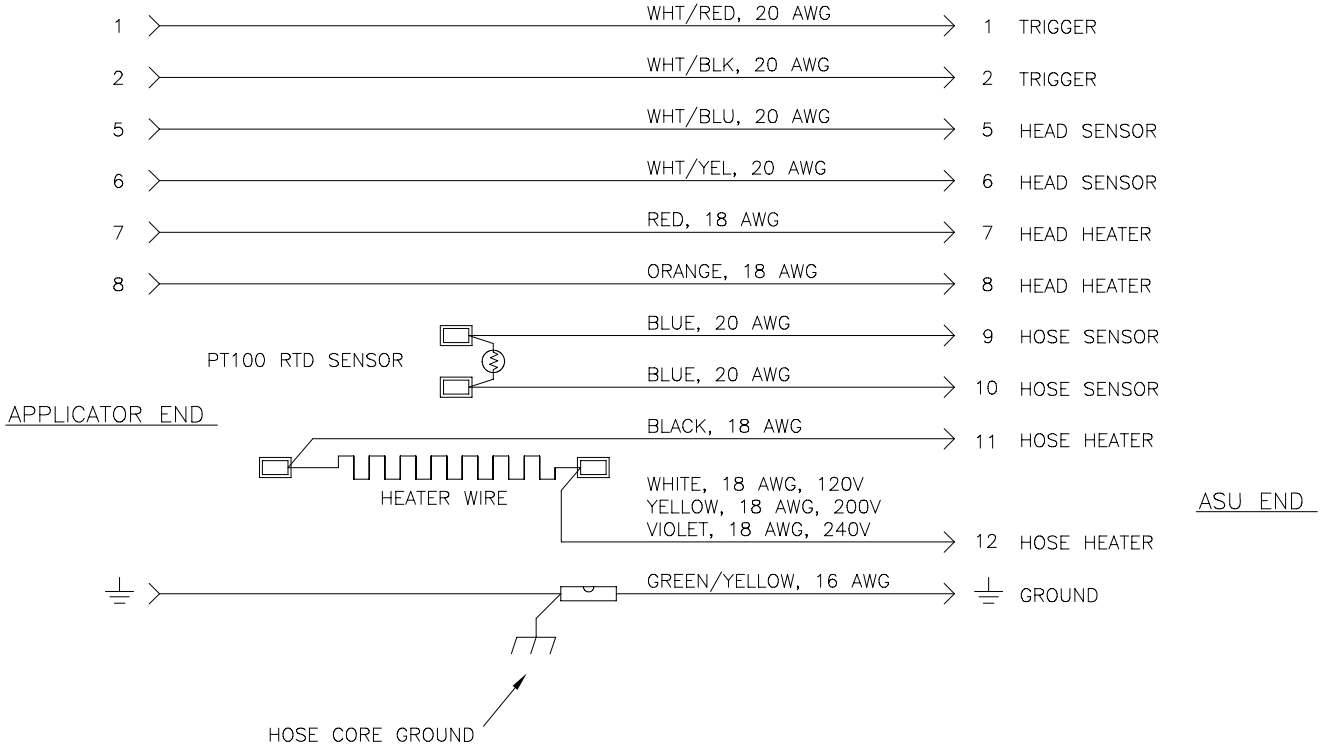
Refer to the ASU service manual for system wattage limitations.

15-pin connector
ASU end of hose



9-pin connector
Applicator end of hose

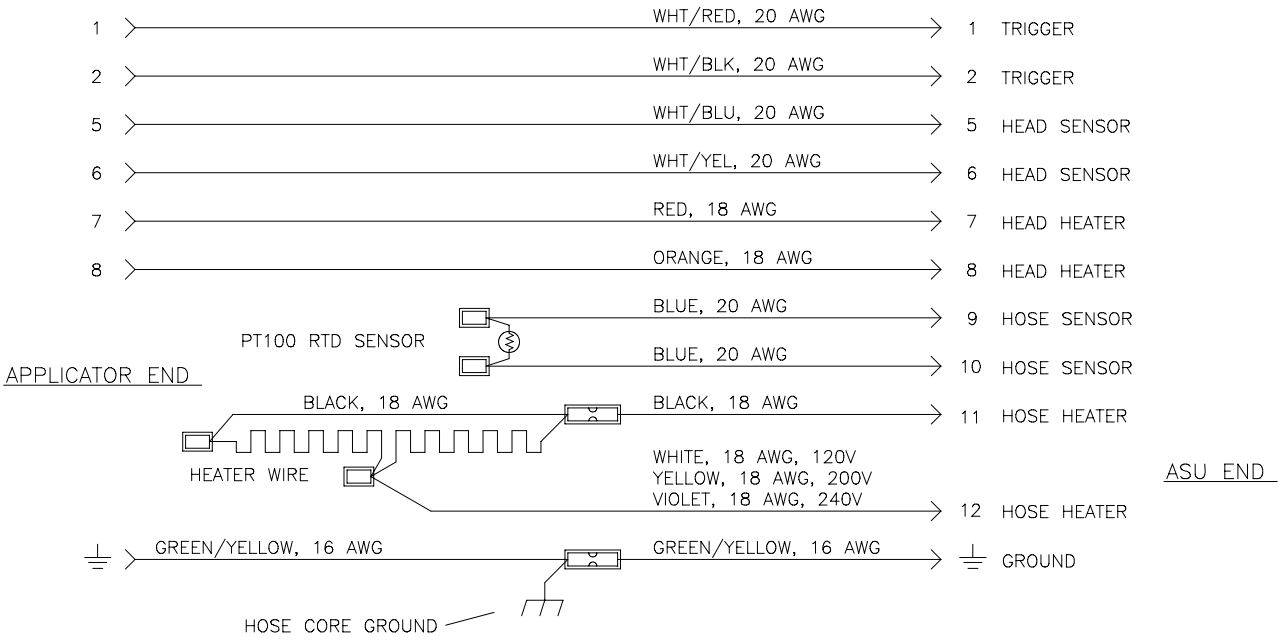




NOTES:

1. ALL WIRING IS ROUTED THROUGH THE HOSE.,
2. WIRE SIZES SHOWN ARE FOR NO. 6 AND NO. 8 HOSES UP TO 24 FT. IN LENGTH. FOR LARGER DIAMETER AND LONGER HOSES, HEATER LEAD WIRES ARE 16 AWG. OTHER WIRE SIZES, AND COLORS, MAY BE CHANGED IN SPECIAL HOSES, PER CUSTOMER REQUEST.

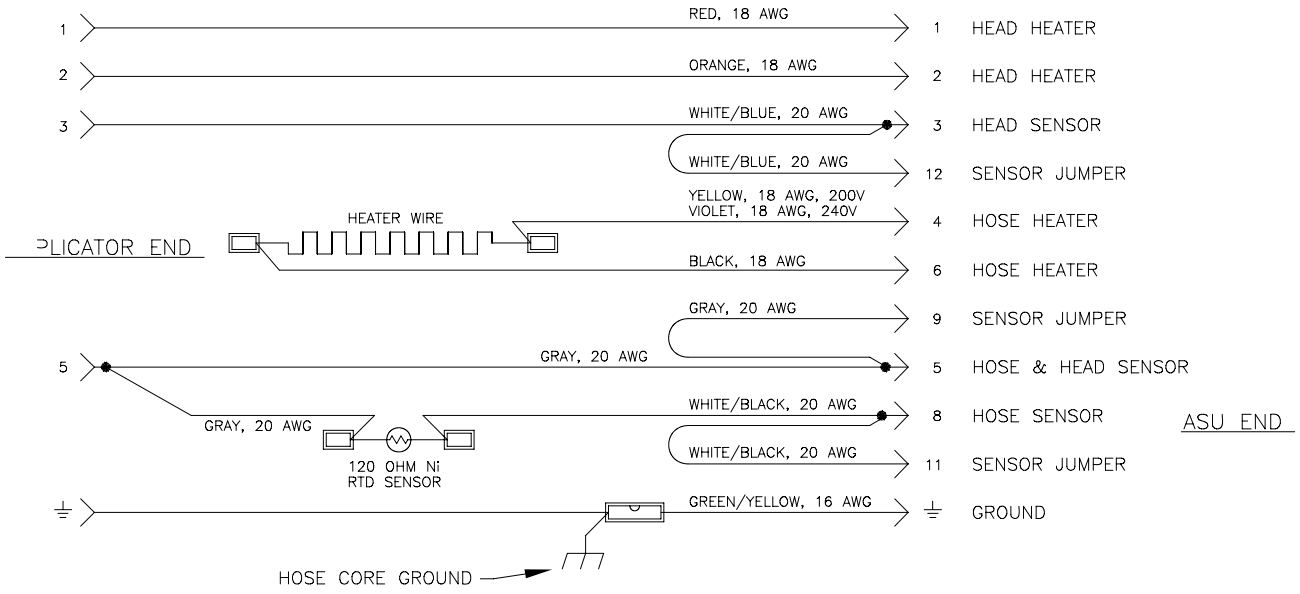
Schematic 101082, Rev. G: Dynacontrol™ Hoses



NOTES:

1. ALL WIRING IS ROUTED THROUGH THE HOSE.,
2. THE HEATER WIRE CIRCUIT IS DIVIDED INTO TWO SEPARATE SEGMENTS. EACH SEGMENT IS WOUND OVER HALF THE HOSE LENGTH AND WIRED IN PARALLEL CONNECTION TO THE HOSE SUPPLY VOLTAGE.
3. WIRE SIZES SHOWN ARE FOR NO. 6 AND NO. 8 HOSES UP TO 24 FT. IN LENGTH. FOR LARGER DIAMETER AND LONGER HOSES, HEATER LEAD WIRES ARE 16 AWG. OTHER WIRE SIZES, AND COLORS, MAY BE CHANGED IN SPECIAL HOSES, PER CUSTOMER REQUEST.

Schematic 112633, Rev. A: DynaControl 2-Heater Hoses
Used on longer hoses (over 45 feet) and on the #8 8ft. hose



NOTES:

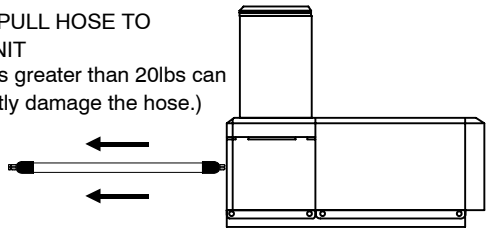
1. ALL WIRING IS ROUTED THROUGH THE HOSE.
2. JUMPERS AT ASU END PINS 9, 11, AND 12 ARE TO BE CONTAINED WITHIN THE ASU END CONNECTOR BODY.
3. WIRE SIZES SHOWN ARE FOR NO. 6 AND NO. 8 HOSES UP TO 24 FT. IN LENGTH. FOR LARGER DIAMETER AND LONGER HOSES, HEATER LEAD WIRES ARE 16 AWG. OTHER WIRE SIZES, AND COLORS, MAY BE CHANGED IN SPECIAL HOSES, PER CUSTOMER REQUEST.

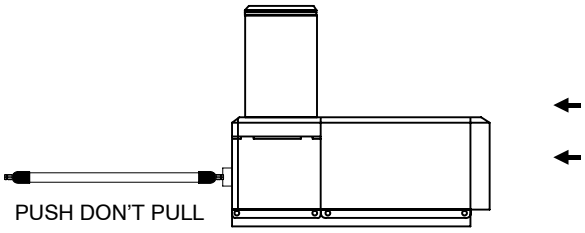
Troubleshooting Hoses

WRONG

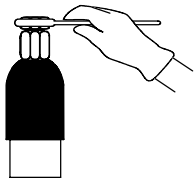
OK

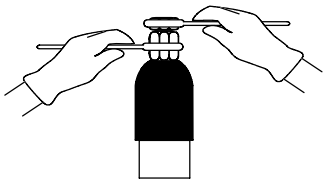
DO NOT PULL HOSE TO MOVE UNIT
(Pull forces greater than 20lbs can permanently damage the hose.)



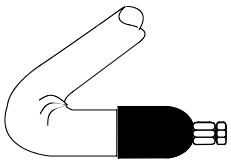


PUSH DON'T PULL

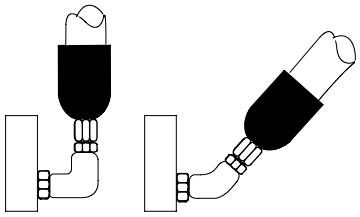




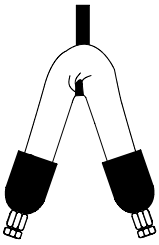
USE TWO WRENCHES TO ADJUST FITTINGS



DON'T BEND OR CRIMP HOSE

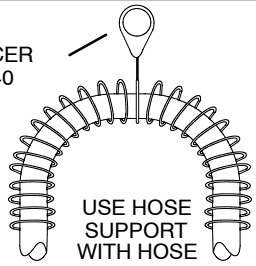


USE 45 HOSE FITTING (PN# N07831) OR
90 HOSE FITTING (PN# N07830)



DO NOT HANG HOSE WITHOUT SUPPORT

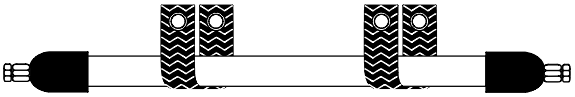
HOSE BALANCER
KIT 084F440



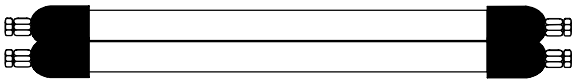
USE HOSE
SUPPORT
WITH HOSE
BALANCER KIT

DO NOT CLAMP, SQUEEZE OR TIE HOSE

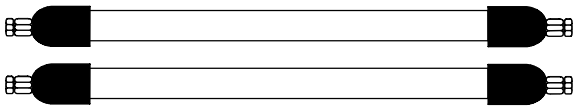
USE HOSE SUPPORTS
(5-pack is PN 113342)

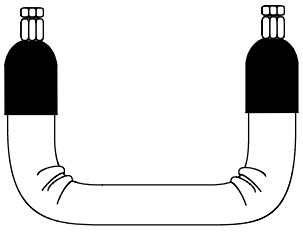


DO NOT SQUEEZE OR PRESS HOSES TOGETHER

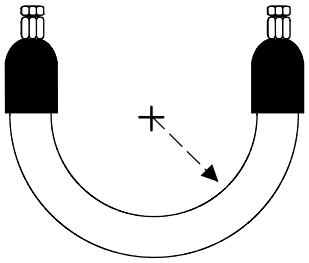


ALLOW 1/2" MINIMUM SPACE BETWEEN HOSES





DO NOT FLEX GLUE FILLED HOSE WHEN COLD!



The minimum bend radius should be as follows:

Hose Core		Hose	Radius
.313	=	#6	8in
.406	=	#8	14in
.625	=	#12	16in
.875	=	#16	20in
1.375	=	#24	30in

ALLOW GLUE FILLED HOSES TO HEAT UP BEFORE FLEXING!

NOTE: Hose failure due to above listed "Wrong" practices will void hose warranty.

Standard Dynamini, Dynamelt S, D & M Series Dynacontrol (DCL) ASU Hoses, 0.313" ID

Hose PN	Length Meters	Length Feet	Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts
102137	0.6	2	748 -827 Ohms	240v	66
101083	1.2	4	446 - 493 Ohms	240v	132
101084	1.8	6	286 - 316 Ohms	240v	198
101085	2.4	8	212 - 234 Ohms	240v	264
101086	3.1	10	163 - 181 Ohms	240v	330
101087	3.7	12	132 - 146 Ohms	240v	396
101088	4.9	16	103 - 114 Ohms	240v	528
102138	6	20	82.3 - 90.9 Ohms	240v	660
101089	7.3	24	65.5 - 72.5 Ohms	240v	792

120 VAC Dynamini ASU Hoses for DCL, 0.313" ID (#6)

Hose PN	Length Meters	Length Feet	Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts
105951	0.6	2	205 - 227 Ohms	120v	66
102437	1.2	4	106 - 117 Ohms	120v	132
102438	1.8	6	66.0 - 72.9 Ohms	120v	198
102439	2.4	8	52.3 - 57.8 Ohms	120v	264
102440	3.1	10	40.7 - 45.0 Ohms	120v	330
102441	3.7	12	32.8 - 36.2 Ohms	120v	396
109483	4.9	16	26.0 - 28.7 Ohms	120v	528

200 VAC Dynamelt S & D Series and Dynamini ASU Hoses for DCL, 0.313" ID (#6)

Hose PN	Length Meters	Length Feet	Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts
109895	0.6	2	642 - 710 Ohms	200v	60
109896	1.2	4	309 - 342 Ohms	200v	120
109897	1.8	6	200 222 Ohms	200v	180
109898	2.4	8	159 - 176 Ohms	200v	240
109899	3.1	10	126 - 140 Ohms	200v	300
109900	3.7	12	99 - 109 Ohms	200v	360
109901	4.9	16	79.9 - 88.4 Ohms	200v	480
109903	6	20	62.9 - 69.5 Ohms	200v	600
109904	7.3	24	53.6 - 59.2 Ohms	200v	720

0.406" ID (#8) Hoses for DCL (Optional for Dynamelt M Series ASUs only)

Also requires a PN 103949 Fitting (8 JIC)

Hose PN	Length		Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts
	Meters	Feet			
103316	1.2	4	255 - 282 Ohms	240v	200
103317	1.8	6	170 - 188 Ohms	240v	300
103318	2.4	8	127 - 141 Ohms	240v	400
103319	3.1	10	102 - 113 Ohms	240v	500
103320	3.7	12	87 - 97 Ohms	240v	600
103321	5.5	18	54 - 60 Ohms	240v	900
103322	7.3	24	42.7 - 47.2 Ohms	240v	1200
106030	9.1	30	39.6 - 44.0 Ohms	240v	1380
106031	11	36	34.8 - 38.6 Ohms	240v	1570
106176	12	40	30.7 - 34.0 Ohms	240v	1780

0.625" ID (#12) Hoses for DCL (Optional for Dynamelt M Series ASUs only)

PN 110901 Fitting is available for high flow applications.

Hose PN	Length		Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts
	Meters	Feet			
105236	1.8	6	145 - 161 Ohms	240v	360
105237	2.4	8	107 - 118 Ohms	240v	480
105238	3.1	10	90 - 99 Ohms	240v	600
105239	3.7	12	73 - 81 Ohms	240v	720
106363	4.3	14	64 - 72 Ohms	240v	840
105240	5.5	18	48 - 53 Ohms	240v	1080
105241	7.3	24	37.5 - 41.5 Ohms	240v	1440

0.313" ID (#6) Hoses for DCL (Optional for Dynamelt M Series ASUs only)

Hose PN	Length		Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts (Min./ Max.)
	Meters	Feet			
105187	9.1	30	40.1 - 44.3 Ohms	200/ 240v	900 - 1290
106216	11	36	35.6 - 39.5 Ohms	200/ 240v	1081 - 1550
105601	12	40	32.4 - 36.0 Ohms	200/ 240v	1200 - 1720

Spray (Swirl) Hoses for Standard Dynamini, Dynamelt S, D & M Series DCL ASUs, 0.313" ID (#6)

Hose PN	Length		Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts (Min./ Max.)
	Meters	Feet			
102173	2.4	8	155 - 172 Ohms	200/ 240v	240 - 344
102174	3.1	10	120 - 133 Ohms	200/ 240v	300 - 430
102175	3.7	12	102 - 114 Ohms	200/ 240v	360 - 516
102176	4.9	16	75 - 84 Ohms	200/ 240v	480 - 688
102177	6	20	60 - 67 Ohms	200/ 240v	600 - 860
102178	7.3	24	51 - 57 Ohms	200/ 240v	720 - 1032

Spray (Swirl) Hoses for 120 VAC Dynamini DCL ASUs, 0.313" ID (#6)

Hose PN	Length		Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts (Min./ Max.)
	Meters	Feet			
102442	2.4	8	37 - 42 Ohms	100/ 120v	240 - 344
102443	3.1	10	30 - 34 Ohms	100/ 120v	300 - 430
102444	3.7	12	25 - 28 Ohms	100/ 120v	360 - 516
112911	6	20	22.6 - 26.4	100/ 120v	580

Abrasion Resistant DCL Hoses, 0.313" ID (#6)

Length		Part Number for 120v Bead Applicator	Part Number for 120v Spray Applicator	Part Number for 200/240v Bead Applicator	Part Number for 200/240v Spray Applicator
Meters	Feet				
1.8	6	104633	n.a.	104561	n.a
2.4	8	104634	104637	104562	104640
3.1	10	104635	104638	104563	104641
3.7	12	104636	104639	104564	104642
4.9	16	n.a.	n.a.	104565	104643
6	20	112912	112913	104566	104644
7.3	24	n.a.	n.a.	104567	104645

Washdown DCL Hoses, 0.313" ID (#6)

Hose PN	Length Meters	Length Feet	Heater Wire Resistance (Min./ Max.)	Voltage (AC)	Nominal Hose Power, Watts (Min./ Max.)
105089	0.6	2	627 - 694 Ohms	200/ 240v	60 -86
105133	1.2	4	323 - 358 Ohms	200/ 240v	120 -172
103710	1.8	6	201 - 223 Ohms	200/ 240v	180 - 258
103711	2.4	8	155 - 172 Ohms	200/ 240v	240 - 344
103712	3.1	10	120 - 133 Ohms	200/ 240v	300 - 430
103713	3.7	12	102 - 114 Ohms	200/ 240v	360 - 516
103714	4.9	16	75 - 84 Ohms	200/ 240v	480 - 688
103716	6	20	60 - 67 Ohms	200/ 240v	600 - 860
103717	7.3	24	51 - 57 Ohms	200/ 240v	720 - 1032

Spray (Swirl) Air Regulator Kit

An air control kit, consisting of a regulator and a choice of three solenoids (see chart below) is available for swirl applications. To order, specify both regulator and solenoid part numbers.

Description	Voltage	Part Number
Regulator		084M008
Select one of the following solenoids:		
Pneumatic, 3 way	120	030A014
Pneumatic, 3 way	240	030A013
Pneumatic, 3 way	24	030A016

Hanger Strap Kit PN 113342

In applications where a hose is routed through or over a machine, straps may be used to suspend it to prevent the hose from laying on the ground or on machinery. Nylon hanger straps are recommended, set at an interval of every four feet. The strap kit consists of five hanger straps.

For an online copy of this manual, go to
www.itwdynatec.com/manuals.htm