



**CLIMATEWORX**  
MISSION CRITICAL CLIMATE CONTROL

## Series 9

Intelligent Precision Air Conditioning System

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*Technical Data - 50Hz*

## **Table of Contents**

<b>Table of Contents .....</b>	<b>2</b>
<b>Air-cooled System .....</b>	<b>3</b>
<b>Water-cooled System .....</b>	<b>5</b>
<b>Glycol-cooled System .....</b>	<b>7</b>
<b>Chilled-Water System.....</b>	<b>9</b>
<b>Air Dual-cooling System.....</b>	<b>11</b>
<b>Water Dual-cooling System.....</b>	<b>14</b>
<b>Glycol Dual-cooling System.....</b>	<b>17</b>
<b>Glycol Free-cooling System .....</b>	<b>20</b>
<b>Electrical Data .....</b>	<b>23</b>
<b>Dimensional Drawings.....</b>	<b>27</b>

## Air-cooled System

Model no.	9AU__/9AD	06	08	12	14	16	18	20	22	26
<b>Cooling Capacity - Rated at standard air volume &amp; 49°C condensing temperature, R407c</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	21.2	29.0	36.8	44.7	54.5	58.2	67.6	80.2	82.7
Sensible	kW	20.1	27.3	34.3	42.8	51.2	56.4	63.7	71.3	78.8
THR	kW	25.7	35.4	44.7	54.7	67.2	70.9	82.5	98.2	100.8
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	20.7	28.4	36.0	44.0	53.6	56.9	66.2	78.3	80.6
Sensible	kW	20.7	28.4	36.0	44.0	53.6	56.9	66.2	78.2	80.6
THR	kW	25.4	34.9	43.9	53.9	66.2	69.6	80.9	96.3	98.5
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.0	27.5	34.7	42.6	52.0	55.0	63.8	75.4	77.0
Sensible	kW	19.5	27.0	33.4	41.9	50.0	54.7	62.0	70.4	77.0
THR	kW	24.7	33.9	42.6	52.4	64.6	67.6	78.7	93.4	95.0
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	19.8	27.0	34.1	41.8	51.0	54.2	63.1	74.8	75.3
Sensible	kW	19.8	27.0	34.1	41.8	51.0	54.2	63.1	74.8	75.3
THR	kW	24.3	33.4	42.0	51.6	63.7	66.9	77.8	92.7	93.3
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.1	26.1	32.9	40.5	49.5	52.4	61.0	72.0	71.8
Sensible	kW	19.1	26.0	32.9	40.5	49.1	52.4	60.9	68.6	71.8
THR	kW	23.8	32.6	40.8	50.4	62.0	65.1	75.6	90.0	89.9
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	18.7	25.7	32.6	39.5	48.4	51.9	60.1	71.3	70.2
Sensible	kW	18.7	25.7	32.6	39.5	48.4	51.9	60.1	71.3	70.2
THR	kW	23.4	32.1	40.5	49.4	60.9	64.4	74.9	89.3	88.2
<b>Fan Section - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings</b>										
Standard Air Volume	m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure	Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans		2	2	2	2	2	2	2	2	3
Total Fan Motor Power	kW	0.75	1.49	2.24	2.24	3.73	3.73	5.60	5.60	7.46
<b>Compressor - Refrigerant R407c</b>										
Quantity of Compressors		2	2	2	2	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil - A-Frame- Copper tube / aluminium fin - Stainless steel drain pan</b>										
Face Area	m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep		3	3	4	3	3	4	4	4	4
Fins per inch		14	14	14	13	13	13	13	13	13
Face Velocity	m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52

Model no. 9AU_/9AD_†	06	08	12	14	16	18	20	22	26
<b>Reheat Section</b>									
<i>Electric Reheat</i> <sup>1</sup> -Fully proportional, finned tubular type heater, SCR Controlled									
Capacity kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters	3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat</i> - 22°C E.A.T.									
Heating Capacity kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat</i> - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way									
Heating Capacity kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat</i> - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve									
Heating Capacity kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>									
<i>Electrode Boiler Type, Serviceable Bottle</i> <sup>1</sup>									
Capacity kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section</b> - Pleated disposable type									
<i>Upflow Models</i>									
Quantity of Filters	3	3	3	4	4	4	4	4	5
Nominal Size LxWxD-mm	508 x 635 x 101.6				508 x 635 x 101.6				
<i>Downflow Models</i>									
Quantity of Filters	4	4	4	6	6	6	6	6	8
Nominal Size LxWxD-mm	406.4 x 635 x 101.6				406.4 x 635 x 101.6				
<b>Piping Connection Size</b>									
Liquid Line - ODM -mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2
Hot Gas Line - ODM -mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6
Hot Water - ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam - MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam Condensate- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
Humidifier Water - ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Condensate Drain - ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
<b>Physical Details</b> - For units with standard options only; consult factory for special options and configuration									
Dimensions mm	1854(W) x 864(D) x 1880(H)				2515(W) x 864(D) x 1880(H)				**
Approx. Weight kg	600	615	635	800	810	840	845	845	1012
<b>Air Cooled Condenser</b> – Factory matched									
Model*	DS63SE	DS66SE	DS66SE	DS67SE	DS67SE	DS68SE	DS610SE	DS610SE	SC67SE
No. of Condenser	1	1	1	1	1	1	1	1	2

\* Based on maximum ambient of 38°C, \*\* Dimensions for 26 Ton Unit 3175(W) x 864(D) x 1880(H)

<sup>1</sup> Standard options

## Water-cooled System

Model no. 9WU__/9WD__ <sup>†</sup>		06	08	12	14	16	18	20	22	26
<b>Cooling Capacity - Rated at standard air volume, 46°C condensing temperature, R407c</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	22.0	29.1	37.9	45.2	56.6	60.1	68.5	82.9	84.4
Sensible	kW	20.5	27.3	34.8	43.0	52.1	57.3	64.0	72.5	79.4
THR	kW	26.6	35.5	45.8	55.2	69.3	72.8	83.3	101.0	102.4
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	21.5	28.5	37.0	44.3	55.5	58.6	67.0	80.8	82.5
Sensible	kW	21.5	28.5	37.0	44.3	55.5	58.6	67.0	79.2	82.5
THR	kW	26.1	35.0	44.8	54.2	68.0	71.3	81.7	98.8	100.5
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.8	27.5	35.5	42.8	53.7	56.4	64.5	77.5	79.6
Sensible	kW	19.8	27.0	33.9	42.0	50.6	55.4	62.3	71.3	78.7
THR	kW	25.4	33.9	43.5	52.7	66.2	69.1	79.2	95.6	97.7
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	20.3	27.0	34.9	42.0	52.5	55.7	63.7	76.8	78.2
Sensible	kW	20.3	27.0	34.9	42.0	52.5	55.7	63.7	76.8	78.2
THR	kW	25.0	33.4	42.8	51.8	65.2	68.2	78.4	94.7	96.1
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.7	26.0	33.5	40.6	50.8	53.6	61.3	73.7	75.4
Sensible	kW	19.7	26.0	33.3	40.6	49.8	53.6	61.0	69.4	75.4
THR	kW	24.3	32.5	41.4	50.4	63.4	66.2	76.0	91.7	93.4
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	19.3	25.5	33.3	39.4	49.5	52.8	60.4	72.9	74.0
Sensible	kW	19.3	25.5	33.3	39.4	49.5	52.8	60.4	72.9	74.0
THR	kW	23.9	31.9	41.1	49.3	62.0	65.5	75.1	90.8	92.0
<b>Fan Section - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings</b>										
Standard Air Volume	m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure	Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans		2	2	2	2	2	2	2	2	3
Fan Motor Power	kW	0.75	1.49	2.24	2.24	3.73	3.73	5.60	5.60	7.46
<b>Compressor - Refrigerant R407c</b>										
Quantity of Compressors		2	2	2	2	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil - A-Frame - Copper tube / aluminium fin - Stainless steel drain pan</b>										
Face Area	m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep		3	3	4	3	3	4	4	4	4
Fins per inch		14	14	14	13	13	13	13	13	13
Face Velocity	m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52

Model no.	9WU__/9WD__ <sup>†</sup>	06	08	12	14	16	18	20	22	26
<b>Reheat Section</b>										
<i>Electric Reheat</i> <sup>1</sup> - Fully proportional, finned tubular type heater, SCR Controlled										
Capacity	kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters		3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat</i> - 22°C E.A.T.										
Heating Capacity	kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat</i> - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way										
Heating Capacity	kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate	l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop	kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat</i> - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve										
Heating Capacity	kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>										
<i>Electrode Boiler Type, Serviceable Bottle</i> <sup>1</sup>										
Capacity	kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power	kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section</b> - Pleated disposable type										
<i>Upflow Models</i>										
Quantity of Filters		3	3	3	4	4	4	4	4	5
Nominal Size	LxWxD-mm	508 x 635 x 101.6				508 x 635 x 101.6				
<i>Downflow Models</i>										
Quantity of Filters		4	4	4	6	6	6	6	6	8
Nominal Size	LxWxD-mm	406.4 x 635 x 101.6				406.4 x 635 x 101.6				
<b>Condensing Water Requirement</b>										
<b>30°C EWT</b>										
Flow Rate	l/s	0.59	0.84	1.21	1.08	1.45	1.55	1.86	2.47	2.45
Unit Pressure Drop	kPa	11.8	20.8	40.2	16.8	27.8	28.7	40.9	71.9	66.2
<b>25°C EWT</b>										
Flow Rate	l/s	0.43	0.61	0.85	0.80	1.05	1.12	1.32	1.71	1.67
Unit Pressure Drop	kPa	7.2	12.3	20.9	10.7	16.9	18.8	22.6	34.6	32.4
<b>Water Regulating Valve</b> - 2-way, head pressure controlled										
Size	mm	19.1	19.1	19.1	25.4	25.4	25.4	25.4	25.4	25.4
<b>Piping Connection Size</b>										
Liquid Line	- ODM - mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2
Hot Gas Line	- ODM - mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6
Condensing Water	- ODM - mm	28.6	28.6	34.9	34.9	34.9	41.3	41.3	41.3	41.3
Hot Water	- ODM - mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam	- MPT - mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam Condensate	- ODM - mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
Humidifier Water	- ODM - mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Condensate Drain	- ODM - mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
<b>Physical Details*</b> - For units with standard options only; consult factory for special options and configuration										
Dimensions	mm	1854(W) x 864(D) x 1880(H)				2515(W) x 864(D) x 1880(H)				**
Approx. Weight	kg	735	748	771	948	957	989	998	998	1103

\*\* Dimensions for 26 Ton Unit 3172(W) x 864(D) x 1880(H)

<sup>1</sup> Standard Options

## Glycol-cooled System

Model no. 9GU_/9GD_†		06	08	12	14	16	18	20	22	26
<b>Cooling Capacity</b> - Rated at standard air volume & 46°C condensing temperature, R407c										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	22.0	29.1	37.9	45.2	56.6	60.1	68.5	82.9	84.4
Sensible	kW	20.5	27.3	34.8	43.0	52.1	57.3	64.0	72.5	79.4
THR	kW	26.6	35.5	45.8	55.2	69.3	72.8	83.3	101.0	102.4
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	21.5	28.5	37.0	44.3	55.5	58.6	67.0	80.8	82.5
Sensible	kW	21.5	28.5	37.0	44.3	55.5	58.6	67.0	79.2	82.5
THR	kW	26.1	35.0	44.8	54.2	68.0	71.3	81.7	98.8	100.5
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.8	27.5	35.5	42.8	53.7	56.4	64.5	77.5	79.6
Sensible	kW	19.8	27.0	33.9	42.0	50.6	55.4	62.3	71.3	78.7
THR	kW	25.4	33.9	43.5	52.7	66.2	69.1	79.2	95.6	97.7
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	20.3	27.0	34.9	42.0	52.5	55.7	63.7	76.8	78.2
Sensible	kW	20.3	27.0	34.9	42.0	52.5	55.7	63.7	76.8	78.2
THR	kW	25.0	33.4	42.8	51.8	65.2	68.2	78.4	94.7	96.1
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.7	26.0	33.5	40.6	50.8	53.6	61.3	73.7	75.4
Sensible	kW	19.7	26.0	33.3	40.6	49.8	53.6	61.0	69.4	75.4
THR	kW	24.3	32.5	41.4	50.4	63.4	66.2	76.0	91.7	93.4
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	19.3	25.5	33.3	39.4	49.5	52.8	60.4	72.9	74.0
Sensible	kW	19.3	25.5	33.3	39.4	49.5	52.8	60.4	72.9	74.0
THR	kW	23.9	31.9	41.1	49.3	62.0	65.5	75.1	90.8	92.0
<b>Fan Section</b> - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings										
Standard Air Volume	m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure	Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans		2	2	2	2	2	2	2	2	3
Fan Motor Power	kW	0.75	1.49	2.24	2.24	3.73	3.73	5.60	5.60	7.46
<b>Compressor</b> - Refrigerant R407c										
Quantity of Compressors		2	2	2	2	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil</b> - A-Frame - Copper tube / aluminium fin - Stainless steel drain pan										
Face Area	m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep		3	3	4	3	3	4	4	4	4
Fins per inch		14	14	14	13	13	13	13	13	13
Face Velocity	m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52

Model no. 9GU__/9GD__ <sup>†</sup>	06	08	12	14	16	18	20	22	26
<b>Reheat Section</b>									
<i>Electric Reheat<sup>1</sup> - Fully proportional, finned tubular type heater, SCR Controlled</i>									
Capacity kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters	3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat - 22°C E.A.T.</i>									
Heating Capacity kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way</i>									
Heating Capacity kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve</i>									
Heating Capacity kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>									
<i>Electrode Boiler Type, Serviceable Bottle<sup>1</sup></i>									
Capacity kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section - Pleated disposable type</b>									
<i>Upflow Models</i>									
Quantity of Filters	3	3	3	4	4	4	4	4	5
Nominal Size LxWxD-mm	508 x 635 x 101.6				508 x 635 x 101.6				
<i>Downflow Models</i>									
Quantity of Filters	4	4	4	6	6	6	6	6	8
Nominal Size LxWxD-mm	406.4 x 635 x 101.6				406.4 x 635 x 101.6				
<b>Glycol Solution Requirement - 40% ethylene glycol</b>									
<b>40. 5°C EWT</b>									
Flow Rate l/s	1.46	2.26	3.30	2.51	2.64	2.84	3.45	4.67	5.16
Unit Pressure Drop kPa	31.0	72.0	84.1	53.9	51.3	61.2	92.6	129.8	43.7
<b>35°C EWT</b>									
Flow Rate l/s	0.87	1.28	1.78	1.49	1.60	1.71	2.03	2.63	2.57
Unit Pressure Drop kPa	12.3	26.0	25.4	22.0	22.3	24.8	33.5	40.1	13.6
<b>Glycol Solution Regulating Valve - 2-way, head pressure controlled</b>									
Size mm	25.4	25.4	31.8	31.8	31.8	31.8	31.8	38.1	50.8
<b>Piping Connection Size</b>									
Liquid Line - ODM -mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2
Hot Gas Line - ODM -mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6
Condensing Water - ODM -mm	28.6	28.6	34.9	34.9	34.9	41.3	41.3	41.3	41.3
Hot Water - ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam - MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam Condensate- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
Humidifier Water - ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Condensate Drain - ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
<b>Physical Details* - For units with standard options only; consult factory for special options and configuration</b>									
Dimensions mm	1854(W) x 864(D) x 1880(H)					2515(W) x 864(D) x 1880(H)			**
Approx. Weight kg	735	748	771	948	957	989	998	998	1103

\* See Section "Physical Details – Fluid Modules" for more information, \*\* Dimensions for 26 Ton Unit 3172(W) x 863(D) x 1880(H)

<sup>1</sup> Standard Options



# Chilled-Water System

Model no. 9CU__ / 9CD__		14	16	18	20	22	26
<b>Cooling Capacity</b> - Rated at standard air volume, 7.2°C entering water & 5.6°C temperature rise							
<b>26°C(78.8°F)DB, 50%rh</b>							
Total	kW	76.4	88.3	100.5	119.9	130.4	153.1
Sensible	kW	57.0	67.3	78.2	89.1	98.4	114.9
Flow Rate	l/s	3.29	3.80	4.13	5.15	5.67	6.62
Coil Pressure Drop	kPa	35	45	57	97	113	64
<b>26°C(78.8°F)DB, 45%rh</b>							
Total	kW	69.4	80.5	91.8	109.3	119.2	139.0
Sensible	kW	58.3	68.9	80.1	91.2	100.8	116.3
Flow Rate	l/s	2.98	3.46	3.95	4.70	5.72	5.99
Coil Pressure Drop	kPa	29	38	48	83	96	54
<b>24°C(75.2°F)DB, 50%rh</b>							
Total	kW	61.2	70.8	80.7	96.5	104.8	122.6
Sensible	kW	50.3	59.3	69.9	79.6	87.9	101.6
Flow Rate	l/s	2.62	3.04	3.47	4.15	5.04	5.30
Coil Pressure Drop	kPa	23	30	39	66	77	43
<b>24°C(75.2°F)DB, 45%rh</b>							
Total	kW	56.1	65.3	71.3	88.8	95.6	112.5
Sensible	kW	52.3	61.7	71.3	82.8	90.2	104.2
Flow Rate	l/s	2.41	2.81	3.07	3.82	3.94	4.86
Coil Pressure Drop	kPa	20	26	31	57	61	37
<b>22°C(71.6°F)DB, 50%rh</b>							
Total	kW	47.8	52.6	60.8	75.7	81.9	96.2
Sensible	kW	45.0	52.6	60.8	71.2	77.3	90.9
Flow Rate	l/s	2.06	2.26	2.61	3.26	3.43	4.16
Coil Pressure Drop	kPa	15	18	23	43	47	28
<b>22°C(71.6°F)DB, 45%rh</b>							
Total	kW	44.8	52.6	60.8	71.0	78.0	90.3
Sensible	kW	44.8	52.6	60.8	71.0	78.0	90.3
Flow Rate	l/s	1.92	2.26	2.61	3.05	3.36	3.91
Coil Pressure Drop	kPa	13	18	23	39	45	25
<b>Fan Section</b> - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings							
Standard Air Volume	m <sup>3</sup> /h	11900	14620	17680	18700	21080	23800
External Static Pressure	Pa	75	75	75	75	75	75
Quantity of Fans		2	2	2	2	2	3
Total Fan Motor Power	kW	2.24	3.76	3.73	5.60	5.60	7.46

Model no. 9CU__ / 9CD__		14	16	18	20	22	26	
<b>Chilled-water Coil - A-Frame - Copper tube / aluminium fin - Stainless steel drain pan</b>								
Face Area	m <sup>2</sup>	2.13	2.13	2.13	2.13	2.13	2.81	
Rows Deep		4	4	4	5	5	5	
Fins per inch		13	13	13	13	13	13	
Face Velocity	m/s	1.55	1.91	2.31	2.44	2.75	2.35	
<b>Reheat Section</b>								
<i>Electric Reheat<sup>1</sup> – Fully Proportional, finned tubular type heater, SCR Controlled</i>								
Capacity	kW	12	12	12	12	12	30	
Quantity of Heaters		3	3	3	3	3	3	
<i>Hot Water Reheat - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way</i>								
Heating Capacity	kW	23.3	24.6	24.8	25.6	25.8	31.5	
Water Flow Rate	l/s	0.32	0.32	0.32	0.32	0.32	0.32	
Pressure Drop	kPa	2.9	2.9	2.9	2.9	2.9	3.7	
<i>Steam Reheat - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve</i>								
Heating Capacity	kW	40.4	43.1	43.7	45.4	45.9	58.7	
<b>Humidifier Section</b>								
<i>Electrode Boiler Type, Serviceable Bottle<sup>1</sup></i>								
Capacity	kg/h	9	9	9	9	9	9	
Humidifier Power	kW	6.8	6.8	6.8	6.8	6.8	6.8	
<b>Filter Section - Pleated disposable type</b>								
<i>Upflow Models</i>								
Quantity of Filters		4	4	4	4	4	5	
Nominal Size	LxWxD-mm	508 x 635 x 101.6						
<i>Downflow Models</i>								
Quantity of Filters		6	6	6	6	6	8	
Nominal Size	LxWxD-mm	406.4 x 635 x 101.6						
<b>Chilled-water Valve - 3-Way modulating</b>								
Valve Size	mm	38.1	38.1	50.8	50.8	50.8	50.8	
<b>Piping Connection Size</b>								
Chilled-water	- ODM -mm	41.3	41.3	54.0	54.0	54.0	54.0	
Hot Water	- ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	
Steam	- MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	
Steam Condensate	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	
Humidifier Water	- ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	
Condensate Drain	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	
<b>Physical Details - For units with standard options only; consult factory for special options and configuration</b>								
Dimensions	mm	2515(W) x 864(D) x 1880(H)					3715(W) x 864(D) x 1880(H)	
Weight	kg	665	665	715	720	720	855	

<sup>1</sup>Standard options

# Air Dual-cooling System

Model no.	9DU__/9DD__	06	08	12	14	16	18	20	22	26
<b>Cooling Capacity – Direct Expansion - Rated at standard air volume &amp; 49°C condensing temperature, R407c</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	21.2	29.0	35.0	44.7	54.5	55.4	64.3	74.2	77.2
Sensible	kW	20.1	27.3	32.5	42.8	51.2	52.6	59.6	64.7	72.8
THR	kW	25.7	35.4	42.8	54.7	67.2	68.0	79.0	92.2	95.2
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	20.7	28.4	34.4	44.0	53.6	54.3	63.2	72.8	75.6
Sensible	kW	20.7	28.4	34.4	44.0	53.6	54.3	63.2	69.8	75.6
THR	kW	25.4	34.9	42.3	53.9	66.2	67.0	77.9	90.8	93.7
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.0	27.5	33.3	42.6	52.0	52.7	61.3	70.8	72.9
Sensible	kW	19.5	27.0	32.2	41.9	50.0	51.2	58.0	63.1	69.0
THR	kW	24.7	33.9	41.1	52.4	64.6	65.4	76.0	88.7	90.8
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	19.8	27.0	32.7	41.8	51.0	51.8	60.2	69.4	70.5
Sensible	kW	19.8	27.0	32.7	41.8	51.0	51.8	60.2	68.0	70.5
THR	kW	24.3	33.4	40.6	51.7	63.7	64.4	74.9	87.4	88.4
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.1	26.1	31.6	40.5	49.5	50.3	58.3	67.4	67.6
Sensible	kW	19.1	26.0	31.1	40.5	49.1	50.3	57.2	62.3	67.5
THR	kW	23.8	32.6	39.5	50.4	62.0	62.8	73.0	85.4	85.6
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	18.7	25.7	31.1	39.5	48.4	49.0	57.1	65.9	65.3
Sensible	kW	18.7	25.7	31.1	39.5	48.4	49.0	57.1	65.9	65.3
THR	kW	23.4	32.1	39.0	49.3	60.9	61.6	71.7	83.9	83.3
<b>Cooling Capacity - Chilled-water - Rated at standard air volume, 7.2°C entering water &amp; 5.6°C water temperature rise</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	26.7	34.9	39.7	58.6	65.2	66.8	71.3	72.8	77.3
Sensible	kW	22.1	29.2	33.7	53.2	59.7	61.7	67.5	68.4	77.3
Flow/Pressure Drop	l/s/kPa	1.15/18	1.50/29	1.7/37	2.52/16	2.80/20	2.87/21	3.07/23	3.13/24	3.32/27
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	22.6	30.0	34.2	53.3	60.2	61.8	66.5	68.0	77.3
Sensible	kW	22.6	30.0	34.2	53.3	60.2	61.8	66.5	68.0	77.3
Flow/Pressure Drop	l/s/kPa	0.97/14	1.29/22	1.47/28	2.27/14	2.59/17	2.66/18	2.86/20	2.93/21	3.32/27
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.6	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Sensible	kW	19.5	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Flow/Pressure Drop	l/s/kPa	0.89/12	1.09/17	1.24/21	1.95/10	2.19/13	2.25/13	2.42/15	2.42/16	2.80/20
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	19.2	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Sensible	kW	19.2	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Flow/Pressure Drop	l/s/kPa	0.83/10	1.09/17	1.24/21	1.95/10	2.19/13	2.25/13	2.42/15	2.42/16	2.80/20
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Sensible	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Flow/Pressure Drop	l/s/kPa	0.67/7	0.90/12	1.02/15	1.59/7	1.79/9	1.84/9	1.97/11	2.01/11	2.30/14
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Sensible	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Flow/Pressure Drop	l/s/kPa	0.67/7	0.90/12	1.02/15	1.59/7	1.79/9	1.84/9	1.97/11	2.01/11	2.30/14

Model no. 9DU_/9DD_	06	08	12	14	16	18	20	22	26
<b>Fan Section - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings</b>									
Standard Air Volume m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans	2	2	2	2	2	2	2	2	3
Total Fan Motor Power kW	0.75	1.49	3.73	3.73	3.73	5.60	5.60	5.60	7.46
<b>Compressor - Refrigerant R407c</b>									
Quantity of Compressors	2	2	2	2	2	2	2	2	2
Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil - A-Frame- Copper tube / aluminium fin - Stainless steel drain pan</b>									
Face Area m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep (DX/Chilled Water)	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
Fins per inch	14	14	14	13	13	13	13	13	13
Face Velocity m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52
<b>Reheat Section</b>									
<i>Electric Reheat<sup>1</sup> - Fully proportional, finned tubular type heater, SCR Controlled</i>									
Capacity kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters	3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat - 22°C E.A.T.</i>									
Heating Capacity kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way</i>									
Heating Capacity kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve</i>									
Heating Capacity kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>									
<i>Electrode Boiler Type, Serviceable Bottle<sup>1</sup></i>									
Capacity kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section - Pleated disposable type</b>									
<i>Upflow Models</i>									
Quantity of Filters	3	3	3	4	4	4	4	4	5
Nominal Size LxWxD-mm	508 x 635 x 101.6				508 x 635 x 101.6				
<i>Downflow Models</i>									
Quantity of Filters	4	4	4	6	6	6	6	6	8
Nominal Size LxWxD-mm	406.4 x 635 x 101.6				406.4 x 635 x 101.6				
<b>Chilled-water Valve - 3-Way modulating</b>									
Valve Size mm	25.4	25.4	38.1	38.1	38.1	50.8	50.8	50.8	50.8

Model no. 9DU_/9DD_		06	08	12	14	16	18	20	22	26
<b>Piping Connection Size</b>										
Liquid Line	- ODM -mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2
Hot Gas Line	- ODM -mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6
Hot Water	- ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam	- MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam Condensate-	ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
Humidifier Water	- ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Condensate Drain	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
<b>Physical Details*</b> - For units with standard options only; consult factory for special options and configuration										
Dimensions	mm	2085(W) x 864(D) x 1880(H)   ·				2745(W) x 864(D) x 1880(H)				**
Approx. Weight	kg	667	681	726	840	862	908	930	930	1125
<b>Air cooled Condenser – Factory Matched</b>										
Model*		DS63SE	DS66SE	DS66SE	DS67SE	DS67SE	DS68SE	DS610SE	DS610SE	SC67SE
No. of Condenser		1	1	1	1	1	1	1	1	2

\* Based on maximum ambient of 38°C, \*\* Dimensions for 26 Ton Unit 3175(W) x 864(D) x 1880(H)

<sup>1</sup> Standard options

# Water Dual-cooling System

Model no.	9HU__/9HD__ <sup>†</sup>	06	08	12	14	16	18	20	22	26
<b>Cooling Capacity – Direct Expansion - Rated at standard air volume &amp; 46°C condensing temperature, R407c</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	22.2	29.1	35.9	45.2	56.6	56.9	65.0	76.2	79.8
Sensible	kW	20.6	27.3	33.0	43.0	52.1	53.2	59.9	65.6	73.8
THR	kW	26.8	35.5	43.8	55.2	69.3	69.5	79.7	94.1	97.8
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	21.8	28.5	35.2	44.3	55.5	55.8	63.7	74.7	78.5
Sensible	kW	21.8	28.5	35.2	44.3	55.5	55.8	63.7	70.6	78.5
THR	kW	26.3	35.0	43.0	54.2	68.0	68.4	78.4	92.6	96.4
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	21.0	27.5	33.9	42.8	53.7	54.0	61.7	72.3	76.2
Sensible	kW	20.0	27.0	32.5	42.0	50.6	51.8	58.1	63.8	70.6
THR	kW	25.6	33.9	41.8	52.7	66.3	66.5	76.4	90.3	94.1
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	20.6	27.0	33.3	42.0	52.5	52.8	60.5	70.8	74.3
Sensible	kW	20.6	27.0	33.3	42.0	52.5	52.8	60.5	68.7	74.3
THR	kW	25.2	33.4	41.2	51.8	65.2	65.5	75.1	88.7	92.2
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.9	26.0	32.2	40.6	50.8	51.1	58.5	68.5	72.0
Sensible	kW	19.7	26.0	31.4	40.6	49.8	50.8	57.2	62.8	69.6
THR	kW	24.4	32.5	40.1	50.4	63.4	63.7	73.2	86.5	90.0
<b>20°C(68.0°F)DB, 45%</b>										
Total	kW	19.5	25.5	31.5	39.4	49.5	49.8	57.1	66.9	70.2
Sensible	kW	19.5	25.5	31.5	39.4	49.5	49.8	57.1	66.9	70.2
THR	kW	24.0	31.9	39.4	49.3	62.0	62.3	71.7	84.8	88.2
<b>Cooling Capacity - Chilled-water - Rated at standard air volume, 7.2°C entering water &amp; 5.6°C water temperature rise</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	26.7	34.9	39.7	58.6	65.2	66.8	71.3	72.8	77.3
Sensible	kW	22.1	29.2	33.7	53.2	59.7	61.7	67.5	68.4	77.3
Flow/Pressure Drop	l/s/kPa	1.15/18	1.50/29	1.7/37	2.52/16	2.80/20	2.87/21	3.07/23	3.13/24	3.32/27
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	22.6	30.0	34.2	53.3	60.2	61.8	66.5	68.0	77.3
Sensible	kW	22.6	30.0	34.2	53.3	60.2	61.8	66.5	68.0	77.3
Flow/Pressure Drop	l/s/kPa	0.97/14	1.29/22	1.47/28	2.27/14	2.59/17	2.66/18	2.86/20	2.93/21	3.32/27
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.6	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Sensible	kW	19.5	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Flow/Pressure Drop	l/s/kPa	0.89/12	1.09/17	1.24/21	1.95/10	2.19/13	2.25/13	2.42/15	2.42/16	2.80/20
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	19.2	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Sensible	kW	19.2	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Flow/Pressure Drop	l/s/kPa	0.83/10	1.09/17	1.24/21	1.95/10	2.19/13	2.25/13	2.42/15	2.42/16	2.80/20
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Sensible	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Flow/Pressure Drop	l/s/kPa	0.67/7	0.90/12	1.02/15	1.59/7	1.79/9	1.84/9	1.97/11	2.01/11	2.30/14
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Sensible	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Flow/Pressure Drop	l/s/kPa	0.67/7	0.90/12	1.02/15	1.59/7	1.79/9	1.84/9	1.97/11	2.01/11	2.30/14

Model no. 9HU__/9HD__ <sup>†</sup>	06	08	12	14	16	18	20	22	26
<b>Fan Section - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings</b>									
Standard Air Volume m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans	2	2	2	2	2	2	2	2	3
Total Fan Motor Power kW	0.75	1.49	3.73	3.73	3.73	5.60	5.60	5.60	7.46
<b>Compressor - Refrigerant R407c</b>									
Quantity of Compressors	2	2	2	2	2	2	2	2	2
Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil - A-Frame- Copper tube / aluminium fin - Stainless steel drain pan</b>									
Face Area m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep (DX/Chilled Water)	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
Fins per inch	14	14	14	13	13	13	13	13	13
Face Velocity m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52
<b>Reheat Section</b>									
<i>Electric Reheat<sup>1</sup> - Fully proportional, finned tubular type heater, SCR Controlled</i>									
Capacity kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters	3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat - 22°C E.A.T.</i>									
Heating Capacity kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way</i>									
Heating Capacity kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve</i>									
Heating Capacity kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>									
<i>Electrode Boiler Type, Serviceable Bottle<sup>1</sup></i>									
Capacity kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section - Pleated disposable type</b>									
<i>Upflow Models</i>									
Quantity of Filters	3	3	3	4	4	4	4	4	5
Nominal Size LxWxD-mm	508 x 635 x 101.6				508 x 635 x 101.6				
<i>Downflow Models</i>									
Quantity of Filters	4	4	4	6	6	6	6	6	8
Nominal Size LxWxD-mm	406.4 x 635 x 101.6				406.4 x 635 x 101.6				

Model no. 9HU__/9HD__ <sup>†</sup>		06	08	12	14	16	18	20	22	26
<b>Condensing Water Requirement</b>										
<b>30°C EWT</b>										
Flow Rate	l/s	0.56	0.84	1.10	1.08	1.45	1.46	1.75	2.22	2.33
Unit Pressure Drop	kPa	11.8	20.8	34.0	16.8	27.8	26.1	37.0	62.1	60.0
<b>25°C EWT</b>										
Flow Rate	l/s	0.43	0.61	0.80	0.80	1.05	1.05	1.25	1.55	1.58
Unit Pressure Drop	kPa	7.2	12.3	19.5	10.7	16.9	17.0	22.6	30.1	28.1
<b>Water Regulating Valve - 2-way, head pressure controlled</b>										
Size	mm	19.1	19.1	19.1	25.4	25.4	25.4	25.4	25.4	25.4
<b>Chilled-water Valve - 3-Way modulating</b>										
Valve Size	mm	25.4	25.4	38.1	38.1	38.1	50.8	50.8	50.8	50.8
<b>Piping Connection Size</b>										
Liquid Line	- ODM -mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2
Hot Gas Line	- ODM -mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6
Condensing Water	- ODM -mm	28.6	28.6	34.9	34.9	34.9	41.3	41.3	41.3	41.3
Chilled Water	-ODM -mm	28.6	28.6	41.3	41.3	41.3	54.0	54.0	54.0	54.0
Hot Water	- ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam	- MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
Steam Condensate	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
Humidifier Water	- ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Condensate Drain	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
<b>Physical Details - For units with standard options only; consult factory for special options and configuration</b>										
Dimensions	mm	2085(W) x 864(D) x 1880(H)   ·				2745(W) x 864(D) x 1880(H)				**
Approx. Weight	kg	840	890	944	1021	1048	1094	1125	1125	1216

\*\* Dimensions for 26 Ton Unit 3175(W) x 864(D) x 1880(H)

<sup>1</sup> Standard Options



# Glycol Dual-cooling System

Model no.	9EU_/9ED_†	06	08	12	14	16	18	20	22	26
<b>Cooling Capacity – Direct Expansion - Rated at standard air volume &amp; 46°C condensing temperature, R407c</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	22.2	29.1	35.9	45.2	56.6	56.9	65.0	76.2	79.8
Sensible	kW	20.6	27.3	33.0	43.0	52.1	53.2	59.9	65.6	73.8
THR	kW	26.8	35.5	43.8	55.2	69.3	69.5	79.7	94.1	97.8
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	21.8	28.5	35.2	44.3	55.5	55.8	63.7	74.7	78.5
Sensible	kW	21.8	28.5	35.2	44.3	55.5	55.8	63.7	70.6	78.5
THR	kW	26.3	35.0	43.0	54.2	68.0	68.4	78.4	92.6	96.4
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	21.0	27.5	33.9	42.8	53.7	54.0	61.7	72.3	76.2
Sensible	kW	20.0	27.0	32.5	42.0	50.6	51.8	58.1	63.8	70.6
THR	kW	25.6	33.9	41.8	52.7	66.3	66.5	76.4	90.3	94.1
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	20.6	27.0	33.3	42.0	52.5	52.8	60.5	70.8	74.3
Sensible	kW	20.6	27.0	33.3	42.0	52.5	52.8	60.5	68.7	74.3
THR	kW	25.2	33.4	41.2	51.8	65.2	65.5	75.1	88.7	92.2
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.9	26.0	32.2	40.6	50.8	51.1	58.5	68.5	72.0
Sensible	kW	19.7	26.0	31.4	40.6	49.8	50.8	57.2	62.8	69.6
THR	kW	24.4	32.5	40.1	50.4	63.4	63.7	73.2	86.5	90.0
<b>20°C(68.0°F)DB, 45%</b>										
Total	kW	19.5	25.5	31.5	39.4	49.5	49.8	57.1	66.9	70.2
Sensible	kW	19.5	25.5	31.5	39.4	49.5	49.8	57.1	66.9	70.2
THR	kW	24.0	31.9	39.4	49.3	62.0	62.3	71.7	84.8	88.2
<b>Cooling Capacity - Chilled-water - Rated at standard air volume, 7.2°C entering water &amp; 5.6°C water temperature rise</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	26.7	34.9	39.7	58.6	65.2	66.8	71.3	72.8	77.3
Sensible	kW	22.1	29.2	33.7	53.2	59.7	61.7	67.5	68.4	77.3
Flow/Pressure Drop	l/s/kPa	1.15/18	1.50/29	1.7/37	2.52/16	2.80/20	2.87/21	3.07/23	3.13/24	3.32/27
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	22.6	30.0	34.2	53.3	60.2	61.8	66.5	68.0	77.3
Sensible	kW	22.6	30.0	34.2	53.3	60.2	61.8	66.5	68.0	77.3
Flow/Pressure Drop	l/s/kPa	0.97/14	1.29/22	1.47/28	2.27/14	2.59/17	2.66/18	2.86/20	2.93/21	3.32/27
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	20.6	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Sensible	kW	19.5	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Flow/Pressure Drop	l/s/kPa	0.89/12	1.09/17	1.24/21	1.95/10	2.19/13	2.25/13	2.42/15	2.42/16	2.80/20
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	19.2	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Sensible	kW	19.2	25.4	29.0	45.3	50.9	52.3	56.2	57.4	65.2
Flow/Pressure Drop	l/s/kPa	0.83/10	1.09/17	1.24/21	1.95/10	2.19/13	2.25/13	2.42/15	2.42/16	2.80/20
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Sensible	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Flow/Pressure Drop	l/s/kPa	0.67/7	0.90/12	1.02/15	1.59/7	1.79/9	1.84/9	1.97/11	2.01/11	2.30/14
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Sensible	kW	15.8	20.8	23.7	37.0	41.6	42.7	45.8	46.8	52.9
Flow/Pressure Drop	l/s/kPa	0.67/7	0.90/12	1.02/15	1.59/7	1.79/9	1.84/9	1.97/11	2.01/11	2.30/14

Model no. 9EU__/9ED__†	06	08	12	14	16	18	20	22	26
<b>Fan Section - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings</b>									
Standard Air Volume m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans	2	2	2	2	2	2	2	2	3
Total Fan Motor Power kW	0.75	1.49	2.24	3.73	3.73	5.60	5.60	5.60	7.46
<b>Compressor - Refrigerant R407c</b>									
Quantity of Compressors	2	2	2	2	2	2	2	2	2
Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil - A-Frame- Copper tube / aluminium fin - Stainless steel drain pan</b>									
Face Area m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep (DX/Chilled Water)	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
Fins per inch	14	14	14	13	13	13	13	13	13
Face Velocity m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52
<b>Reheat Section</b>									
<i>Electric Reheat<sup>1</sup> - Fully proportional, finned tubular type heater, SCR Controlled</i>									
Capacity kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters	3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat - 22°C E.A.T.</i>									
Heating Capacity kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way</i>									
Heating Capacity kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve</i>									
Heating Capacity kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>									
<i>Electrode Boiler Type, Serviceable Bottle<sup>1</sup></i>									
Capacity kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section - Pleated disposable type</b>									
<i>Upflow Models</i>									
Quantity of Filters	3	3	3	4	4	4	4	4	5
Nominal Size LxWxD-mm	508 x 635 x 101.6				508 x 635 x 101.6				
<i>Downflow Models</i>									
Quantity of Filters	4	4	4	6	6	6	6	6	8
Nominal Size LxWxD-mm	406.4 x 635 x 101.6				406.4 x 635 x 101.6				

Model no. 9EU__/9ED__ <sup>†</sup>		06	08	12	14	16	18	20	22	26	
<b><i>Glycol Solution Requirement - 40% ethylene glycol</i></b>											
<b>40.5°C EWT</b>											
Flow Rate	l/s	1.46	2.26	3.26	2.51	2.64	2.66	3.23	4.18	4.92	
Unit Pressure Drop	kPa	31.0	72.0	105.5	53.9	51.3	51.7	77.9	88.6	39.8	
<b>35°C EWT</b>											
Flow Rate	l/s	0.87	1.28	1.75	1.49	1.60	1.61	1.91	2.39	2.46	
Unit Pressure Drop	kPa	12.3	26.0	35.7	22.0	22.3	22.4	31.4	38.8	12.8	
<b><i>Glycol Solution Regulating Valve - 2-way, head pressure controlled</i></b>											
Size	mm	25.4	25.4	31.8	31.8	31.8	31.8	31.8	38.1	50.8	
<b><i>Chilled-water Valve - 3-Way modulating</i></b>											
Valve Size	mm	25.4	25.4	38.1	38.1	38.1	50.8	50.8	50.8	50.8	
<b><i>Piping Connection Size</i></b>											
Liquid Line	- ODM -mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2	
Hot Gas Line	- ODM -mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6	
Glycol Solution	- ODM -mm	28.6	28.6	34.9	34.9	34.9	41.3	41.3	41.3	41.3	
Chilled Water	-ODM -mm	28.6	28.6	41.3	41.3	41.3	54.0	54.0	54.0	54.0	
Hot Water	- ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	
Steam	- MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	
Steam Condensate-	ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	
Humidifier Water	- ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	
Condensate Drain	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	
<b><i>Physical Details - For units with standard options only; consult factory for special options and configuration</i></b>											
Dimensions	mm	2085(W) x 864(D) x 1880(H)				·	2745(W) x 864(D) x 1880(H)				**
Approx. Weight	kg	840	890	944	1021	1048	1094	1125	1125	1216	

\*\* Dimensions for 26 Ton Unit 3175(W) x 864(D) x 1880(H)

<sup>1</sup> Standard Options

# Glycol Free-cooling System

Model no. 9FU_/9FD_†		06	08	12	14	16	18	20	22	26
<b>Cooling Capacity – Direct Expansion - Rated at standard air volume &amp; 46°C condensing temperature, R407c</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	22.2	29.1	35.9	45.2	56.6	56.9	65.0	76.2	79.8
Sensible	kW	20.6	27.3	33.0	43.0	52.1	53.2	59.9	65.6	73.8
THR	kW	26.8	35.5	43.8	55.2	69.3	69.5	79.7	94.1	97.8
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	21.8	28.5	35.2	44.3	55.5	55.8	63.7	74.7	78.5
Sensible	kW	21.8	28.5	35.2	44.3	55.5	55.8	63.7	70.6	78.5
THR	kW	26.3	35.0	43.0	54.2	68.0	68.4	78.4	92.6	96.4
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	21.0	27.5	33.9	42.8	53.7	54.0	61.7	72.3	76.2
Sensible	kW	20.0	27.0	32.5	42.0	50.6	51.8	58.1	63.8	70.6
THR	kW	25.6	33.9	41.8	52.7	66.3	66.5	76.4	90.3	94.1
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	20.6	27.0	33.3	42.0	52.5	52.8	60.5	70.8	74.3
Sensible	kW	20.6	27.0	33.3	42.0	52.5	52.8	60.5	68.7	74.3
THR	kW	25.2	33.4	41.2	51.8	65.2	65.5	75.1	88.7	92.2
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	19.9	26.0	32.2	40.6	50.8	51.1	58.5	68.5	72.0
Sensible	kW	19.7	26.0	31.4	40.6	49.8	50.8	57.2	62.8	69.6
THR	kW	24.4	32.5	40.1	50.4	63.4	63.7	73.2	86.5	90.0
<b>20°C(68.0°F)DB, 45%</b>										
Total	kW	19.5	25.5	31.5	39.4	49.5	49.8	57.1	66.9	70.2
Sensible	kW	19.5	25.5	31.5	39.4	49.5	49.8	57.1	66.9	70.2
THR	kW	24.0	31.9	39.4	49.3	62.0	62.3	71.7	84.8	88.2
<b>Cooling Capacity – 100% Free-cooling - Rated at standard air volume, 7.2°C entering glycol</b>										
<b>24°C(75.2°F)DB, 50%rh</b>										
Total	kW	25.6	33.7	38.7	51.4	58.6	60.0	70.2	76.3	93.8
Sensible	kW	21.2	28.3	32.6	51.4	58.6	60.0	66.5	70.4	86.3
<b>24°C(75.2°F)DB, 45%rh</b>										
Total	kW	23.7	30.2	35.9	51.4	58.6	60.0	67.7	72.2	88.9
Sensible	kW	22.1	30.2	33.9	51.4	58.6	60.0	67.7	72.2	88.9
<b>22°C(71.6°F)DB, 50%rh</b>										
Total	kW	21.1	27.9	31.9	45.3	51.6	52.9	59.7	63.6	78.3
Sensible	kW	19.5	26.0	29.9	45.3	51.6	52.9	59.7	63.6	78.3
<b>22°C(71.6°F)DB, 45%rh</b>										
Total	kW	20.0	26.6	30.5	45.3	51.6	52.9	59.7	63.6	78.3
Sensible	kW	20.0	26.6	30.5	45.3	51.6	52.9	59.7	63.6	78.3
<b>20°C(68.0°F)DB, 50%rh</b>										
Total	kW	17.3	23.0	26.4	39.2	44.6	45.7	51.6	55.0	67.7
Sensible	kW	17.3	23.0	26.4	39.2	44.6	45.7	51.6	55.0	67.7
<b>20°C(68.0°F)DB, 45%rh</b>										
Total	kW	17.3	23.0	26.4	39.2	44.6	45.7	51.6	55.0	67.7
Sensible	kW	17.3	23.0	26.4	39.2	44.6	45.7	51.6	55.0	67.7

Model no. 9FU_/9FD_†	06	08	12	14	16	18	20	22	26
<b>Fan Section - Two belts, variable pitch, single shaft centrifugal blower system with pillow block bearings</b>									
Standard Air Volume m <sup>3</sup> /h	6120	8840	10540	14960	17680	18360	20400	21080	25500
External Static Pressure Pa	75	75	75	75	75	75	75	75	75
Quantity of Fans	2	2	2	2	2	2	2	2	3
Total Fan Motor Power kW	0.75	1.49	3.73	3.73	3.73	5.60	5.60	5.60	7.46
<b>Compressor - Refrigerant R407c</b>									
Quantity of Compressors	2	2	2	2	2	2	2	2	2
Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
<b>Evaporator Coil - A-Frame- Copper tube / aluminium fin - Stainless steel drain pan</b>									
Face Area m <sup>2</sup>	1.25	1.25	1.25	2.13	2.13	2.13	2.13	2.13	2.81
Rows Deep (DX/Free Cooling)	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
Fins per inch	14	14	14	13	13	13	13	13	13
Face Velocity m/s	1.36	1.97	2.35	1.95	2.31	2.39	2.66	2.75	2.52
<b>Reheat Section</b>									
<i>Electric Reheat<sup>1</sup> - Fully proportional, finned tubular type heater, SCR Controlled</i>									
Capacity kW	6	6	6	12	12	12	12	12	30
Quantity of Heaters	3	3	3	3	3	3	3	3	3
<i>Hot Gas Reheat - 22°C E.A.T.</i>									
Heating Capacity kW	8.6	10.1	10.8	17.0	18.2	18.4	19.2	19.4	25.4
<i>Hot Water Reheat - 82.2°C E.W.T., 22°C E.A.T. - 2-way modulating control valve, optional 3-way</i>									
Heating Capacity kW	12.9	14.7	15.6	23.3	24.6	24.8	25.6	25.8	32.1
Water Flow Rate l/s	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Pressure Drop kPa	2.0	2.0	2.0	2.9	2.9	2.9	2.9	2.9	3.7
<i>Steam Reheat - 108.3°C saturated steam, 22°C E.A.T. - 2-way modulating control valve</i>									
Heating Capacity kW	20.6	24.0	25.6	40.4	43.1	43.7	45.4	45.9	60.2
<b>Humidifier Section</b>									
<i>Electrode Boiler Type, Serviceable Bottle<sup>1</sup></i>									
Capacity kg/h	9	9	9	9	9	9	9	9	9
Humidifier Power kW	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<b>Filter Section - Pleated disposable type</b>									
<i>Upflow Models</i>									
Quantity of Filters	3	3	3	4	4	4	4	4	5
Nominal Size LxWxD-mm	508 x 635 x 101.6			508 x 635 x 101.6					
<i>Downflow Models</i>									
Quantity of Filters	4	4	4	6	6	6	6	6	8
Nominal Size LxWxD-mm	406.4 x 635 x 101.6			406.4 x 635 x 101.6					

Model no. 9FU__/9FD__ <sup>†</sup>		06	08	12	14	16	18	20	22	26	
<b><i>Glycol Solution Regulating Valve - 3-way modulating</i></b>											
Valve Size	mm	25.4	25.4	25.4	25.4	31.8	31.8	31.8	38.1	38.1	
Quantity of Valves		2	2	2	2	2	2	2	2	2	
<b><i>Glycol Solution Requirement - 40% ethylene glycol at 7.2°C entering temperature, 0°C ambient temperature</i></b>											
Flow Rate	l/s	0.84	1.14	1.66	2.04	2.66	2.92	2.68	3.92	5.48	
Unit Pressure Drop	kPa	98	158	190	115	115	117	180	260	290	
<b><i>Piping Connection Size</i></b>											
Liquid Line	- ODM -mm	12.7	12.7	12.7	15.9	15.9	15.9	15.9	15.9	22.2	
Hot Gas Line	- ODM -mm	22.2	22.2	22.2	28.6	28.6	28.6	28.6	28.6	28.6	
Glycol Solution	- ODM -mm	28.6	28.6	34.9	34.9	34.9	41.3	41.3	41.3	41.3	
Hot Water	- ODM -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	
Steam	- MPT -mm	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	
Steam Condensate-	ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	
Humidifier Water	- ODM -mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	
Condensate Drain	- ODM -mm	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	
<b><i>Physical Details - For units with standard options only; consult factory for special options and configuration</i></b>											
Dimensions	mm	2085(W) x 864(D) x 1880(H)				·	2745(W) x 864(D) x 1880(H)				**
Approx. Weight	kg	840	890	944	1021	1048	1094	1125	1125	1216	

\*\* Dimensions for 26 Ton Unit 3175(W) x 864(D) x 1880(H)

<sup>†</sup> Standard Options

# Electrical Data

## Air / Water / Glycol / Cooled Systems\*†

Model	9_06			9_08			9_12			9_14		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat / Humidifier Option												
Electric / Boiler	25.8	29.3	35	31.0	35.0	40	35.8	40.2	45	52.1	59.5	70
Electric / None	24.6	27.8	30	29.8	33.5	35	34.6	38.7	45	52.1	59.5	70
None, Non-electric / Boiler	25.8	29.3	35	31.0	35.0	40	35.8	40.2	45	44.2	49.7	60
None, non-electric / none	15.5	16.4	20	20.7	22.1	30	25.5	27.3	35	33.9	36.8	50

Model	9_16			9_18			9_20			9_22		
	FLA	MCA	MFS	FLA	FLA	MCA	MFS	MCA	MFS	FLA	MCA	MFS
Reheat / Humidifier Option												
Electric / Boiler	61.0	69.2	80	61.0	69.3	80	68.6	77.3	90	78.8	88.8	100
Electric / None	61.0	69.2	80	61.0	69.3	80	68.6	77.0	90	78.8	88.8	100
None, Non-electric / Boiler	53.1	59.3	70	53.2	59.4	70	60.7	67.4	80	70.9	78.9	100
None, non-electric / none	42.8	46.4	60	42.9	46.5	60	50.4	54.5	70	60.6	66.0	90

Model	9_26		
	FLA	MCA	MFS
Reheat / Humidifier Option			
Electric / Boiler	109.9	126.8	130
Electric / None	109.9	126.8	130
None, Non-electric / Boiler	74.7	82.7	100
None, non-electric / none	64.4	69.8	90

## Chilled Water Systems\*

Model	9_14			9_16			9_18			9_20			9_22		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat / Humidifier Option															
Electric / Boiler	34.0	39.1	45	36.7	42.5	50	36.8	42.6	50	40.5	47.3	50	40.5	47.3	50
Electric / None	23.7	28.8	35	26.4	32.2	40	26.5	32.3	40	30.2	36.9	45	30.2	36.9	45
None, Non-electric / Boiler	15.8	18.9	20	18.5	22.3	25	18.6	22.4	25	22.3	27.0	30	22.3	27.0	30
None, non-electric / none	5.5	6.0	15	8.2	9.4	15	8.3	9.5	15	12.0	14.1	20	12.0	14.1	20

Model	9_26		
	FLA	MCA	MFS
Reheat / Humidifier Option			
Electric / Boiler	71.7	86.2	100
Electric / None	61.3	75.9	90
None, Non-electric / Boiler	26.1	31.8	35
None, non-electric / none	15.8	18.9	20

\* Above FLA does not include air-cooled condenser amps (Air cooled units).

† FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.

FLA = Full Load Amps

MCA = Minimum Circuit Ampacity

MFS = Maximum Fuse Size

**Dual / Free Cooled Systems\*†**

Model	9_06			9_08			9_12			9_14		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric / Boiler	25.8	29.3	35	31.0	35.0	40	38.6	43.0	50	54.9	62.3	70
Electric / None	24.6	27.8	30	29.8	33.4	35	37.4	41.5	45	54.9	62.3	70
None, Non-electric / Boiler	25.8	29.3	35	31.0	35.0	40	38.6	43.0	50	47.0	52.5	60
None, non-electric / none	15.5	16.4	20	20.7	22.1	30	28.3	30.1	40	36.7	39.6	50

Model	9_16			9_18			9_20			9_22		
	FLA	MCA	MFS	FLA	FLA	MCA	MFS	MCA	MFS	FLA	MCA	MFS
Electric / Boiler	61.0	69.2	80	64.8	73.0	80	68.6	77.3	90	78.8	88.8	100
Electric / None	61.0	69.2	80	64.8	73.0	80	68.6	77.3	90	78.8	88.8	100
None, Non-electric / Boiler	53.1	59.3	70	56.9	63.1	70	60.7	67.4	80	70.9	78.9	100
None, non-electric / none	42.8	46.4	60	46.6	50.2	60	50.4	54.5	70	60.6	66.0	90

Model	9_26		
	FLA	MCA	MFS
Electric / Boiler	109.9	126.8	130
Electric / None	109.9	126.8	130
None, Non-electric / Boiler	74.7	82.7	100
None, non-electric / none	64.4	69.8	90

\* Above FLA does not include air-cooled condenser amps (Air Dual cooled units).

† FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.  
 FLA = Full Load Amps                      MCA = Minimum Circuit Ampacity                      MFS = Maximum Fuse Size

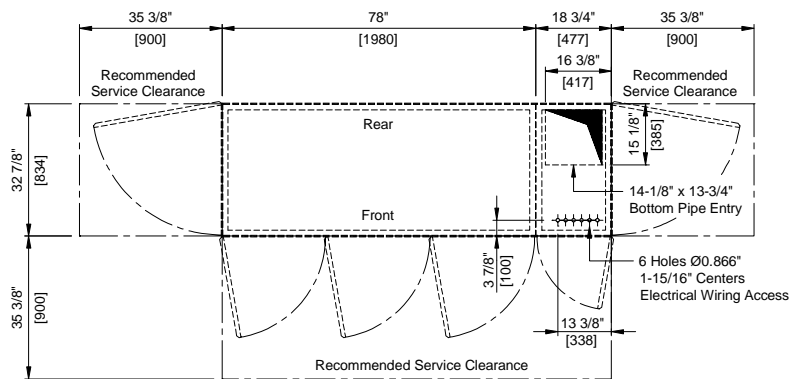
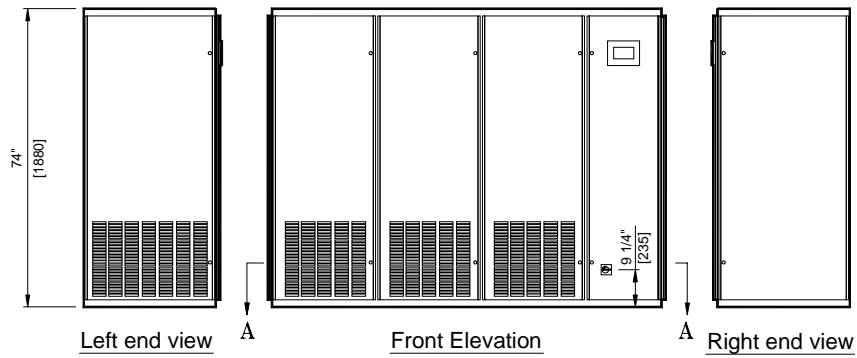
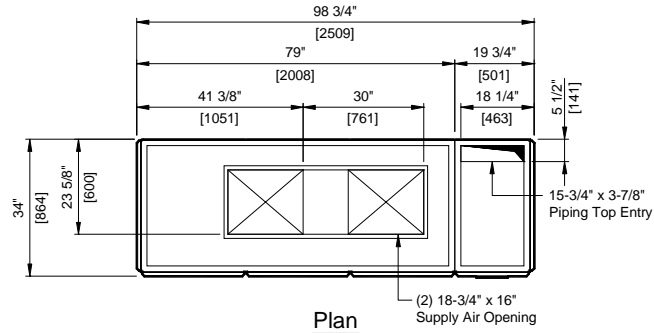


## Dimensional Drawings

<b>Drawing Title</b>	<b>Drawing Number</b>	<b>Page No</b>
Upflow System - Standard Cooling Three Module Unit (14-22 Ton)	S9DD301B	48
Upflow System – Standard Cooling Four Module Unit (26 Ton)	S9DD401C	49
Upflow System – Standard Cooling Two Module Unit (6-12 Ton)	S9DD201A	4:
Upflow System – Chilled water Cooling (3+0) Module (14-25 Ton)	S9DD351A	4;
Upflow System – Chilled water Cooling (4+0) Module (26-30 Ton)	S9DD451A	52
Downflow System – Standard Cooling Three Module Unit (14-22 Ton)	S9DD302B	33
Downflow System – Standard Cooling Four Module Unit (26 Ton)	S9DD402C	34
Downflow System – Standard Cooling Two Module Unit (6-12 Ton)	S9DD202A	35
Downflow System – Chilled water Cooling (3+0) Module (14-25 Ton)	S9DD352C	36
Downflow System – Chilled water Cooling (4+0) Module (26-30 Ton)	S9DD452C	37
Upflow System - Rear Duct Connection (14-22 Ton)	S9DD303B	58
Upflow System - Rear Duct Connection (6-12 Ton)	S9DD203A	59
Upflow System – Rear Duct Connection (26 Ton)	S9DD403B	5:
Upflow System - Dual/Free Cooling (14-22 Ton)	S9DD325A	5;
Upflow System - Dual/Free Cooling (6-12 Ton)	S9DD225A	42
Downflow System - Dual/Free Cooling (14-22 Ton)	S9DD326A	43
Downflow System - Dual/Free Cooling (6-12 Ton)	S9DD226A	44
Upflow System - Rear Duct Connection, Dual/Free Cooling (14-22 Ton)	S9DD327A	45
Upflow System - Rear Duct Connection, Dual/Free Cooling (6-12 Ton)	S9DD227A	46



**SERIES 9-VERTICAL FLOOR MOUNT UPFLOW UNIT  
STANDARD COOLING THREE MODULE UNIT**

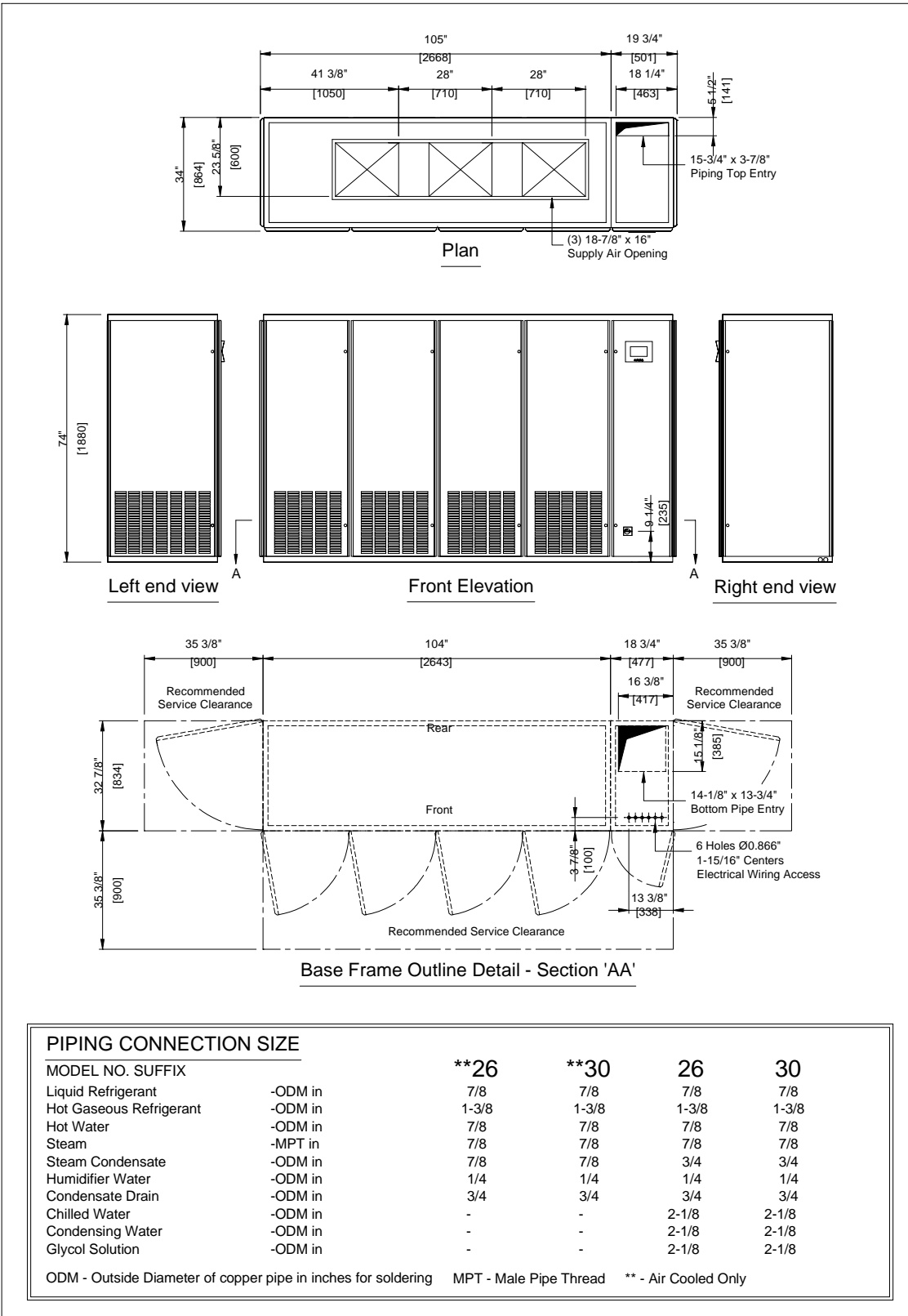


PIPING CONNECTION SIZE		14	16	18	20	22	*25
MODEL NO. SUFFIX							
Liquid Refrigerant	-ODM in	5/8	5/8	5/8	5/8	5/8	-
Hot Gaseous Refrigerant	-ODM in	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	-
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8	7/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	1-3/8	1-3/8	1-3/8	1-3/8	1-5/8	-
Glycol Solution	-ODM in	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	-

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread    \* - Chilled Water Only



**SERIES 9-VERTICAL FLOOR MOUNT UPFLOW UNIT  
STANDARD COOLING FOUR MODULE UNIT**



PIPING CONNECTION SIZE		**26	**30	26	30
MODEL NO. SUFFIX					
Liquid Refrigerant	-ODM in	7/8	7/8	7/8	7/8
Hot Gaseous Refrigerant	-ODM in	1-3/8	1-3/8	1-3/8	1-3/8
Hot Water	-ODM in	7/8	7/8	7/8	7/8
Steam	-MPT in	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	7/8	7/8	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4
Condensate Drain	-ODM in	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	-	-	2-1/8	2-1/8
Condensing Water	-ODM in	-	-	2-1/8	2-1/8
Glycol Solution	-ODM in	-	-	2-1/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering MPT - Male Pipe Thread \*\* - Air Cooled Only

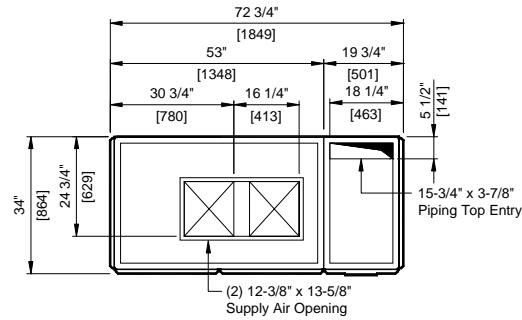
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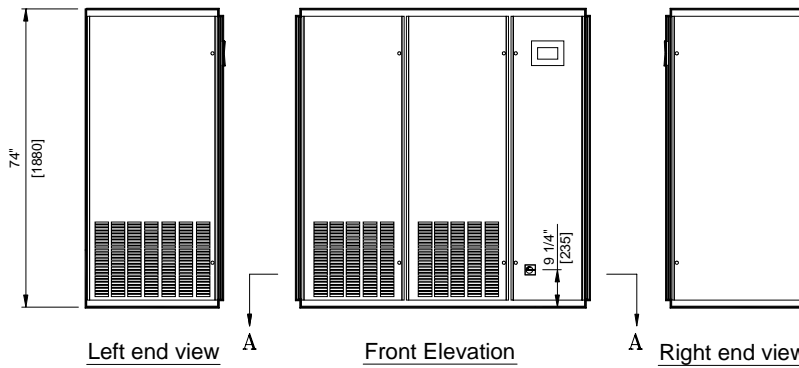
NOT TO SCALE



**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
STANDARD COOLING TWO MODULE UNIT**



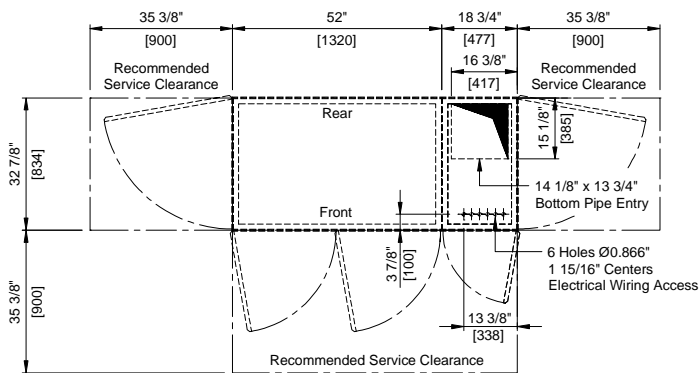
**Plan**



**Left end view**

**Front Elevation**

**Right end view**



**Base Frame Outline Detail - Section 'AA'**

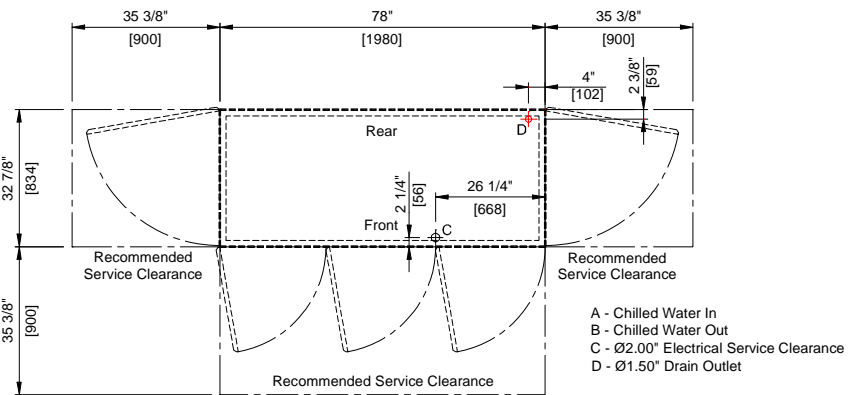
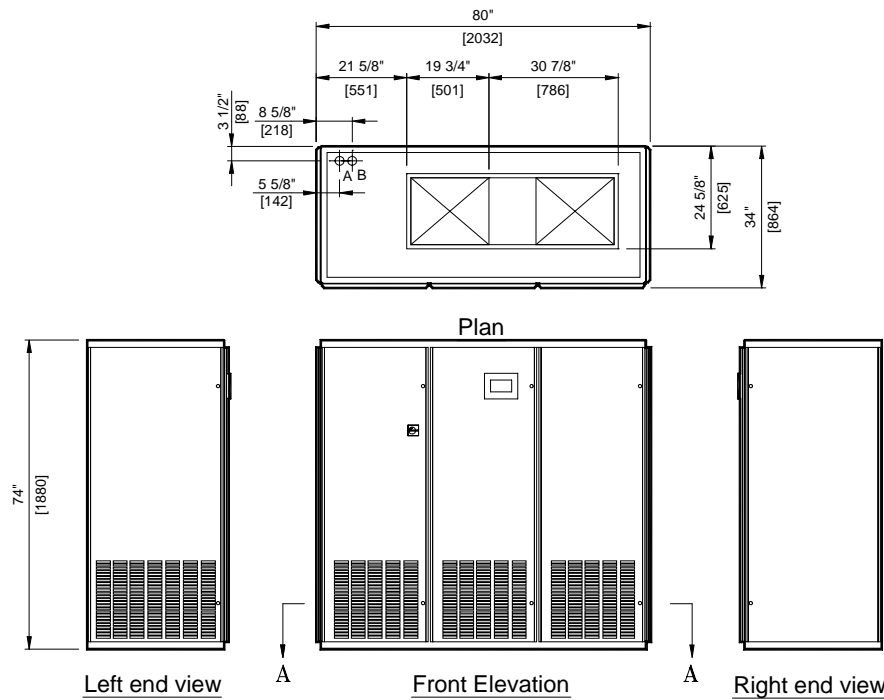
**PIPING CONNECTION SIZE**

MODEL NO. SUFFIX		06	08	12
Liquid Refrigerant	-ODM in	1/2	1/2	1/2
Hot Gaseous Refrigerant	-ODM in	7/8	7/8	7/8
Hot Water	-ODM in	3/4	1	1
Steam	-MPT in	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4
Chilled Water	-ODM in	1-1/8	1-1/8	1-5/8
Condensing Water	-ODM in	1-1/8	1-1/8	1-3/8
Glycol Solution	-ODM in	1-5/8	1-5/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering      MPT - Male Pipe Thread



**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
CHILLED WATER COOLING (3 +0) MODULE**



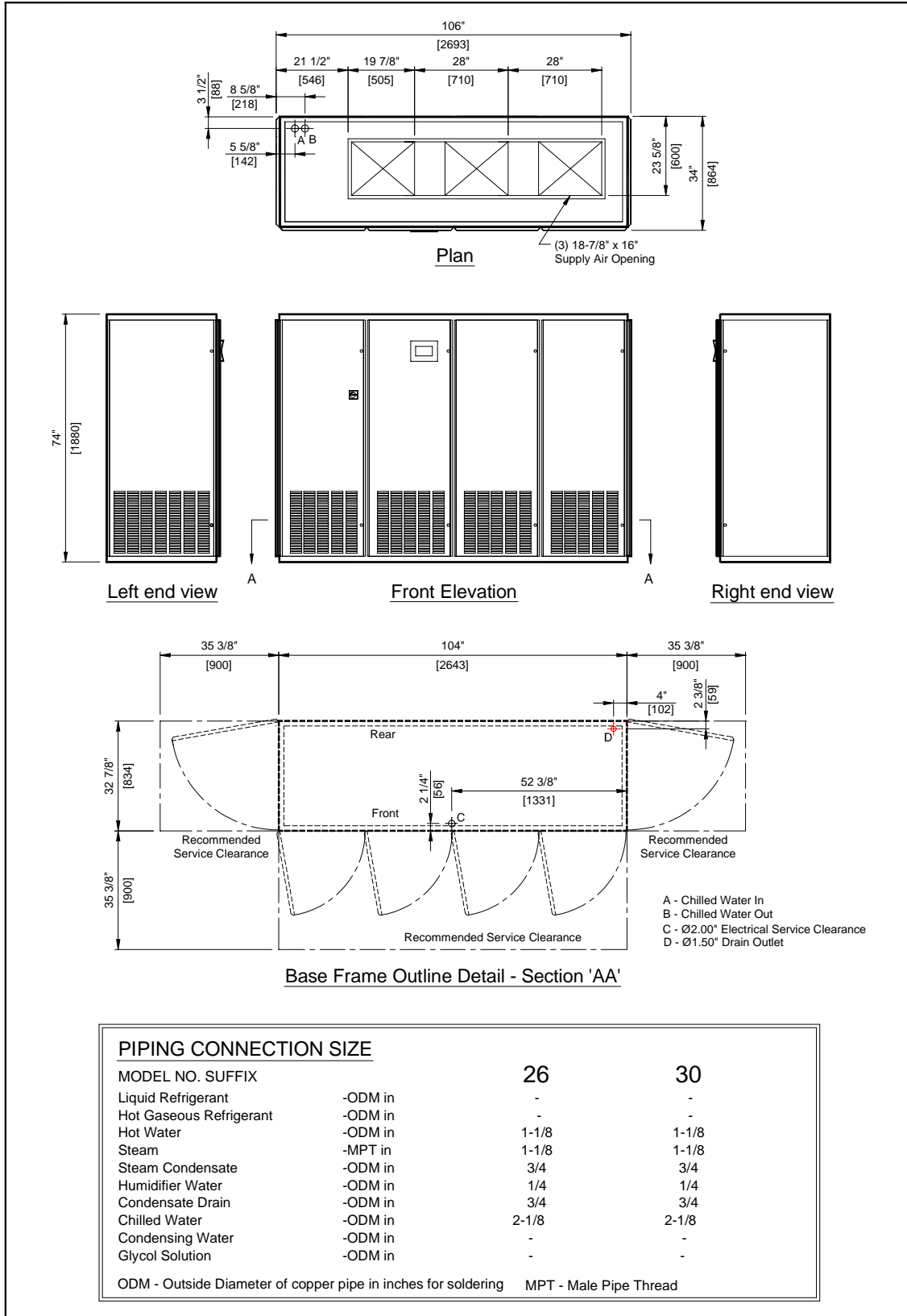
**Base Frame Outline Detail - Section 'AA'**

<b>PIPING CONNECTION SIZE</b>		14	16	18	20	22	*25
MODEL NO. SUFFIX							
Liquid Refrigerant	-ODM in	-	-	-	-	-	-
Hot Gaseous Refrigerant	-ODM in	-	-	-	-	-	-
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8	7/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	-	-	-	-	-	-
Glycol Solution	-ODM in	-	-	-	-	-	-

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread



**SERIES 9-VERTICAL FLOOR MOUNT UPFLOW UNIT  
CHILLED WATER COOLING (4+0) MODULE**



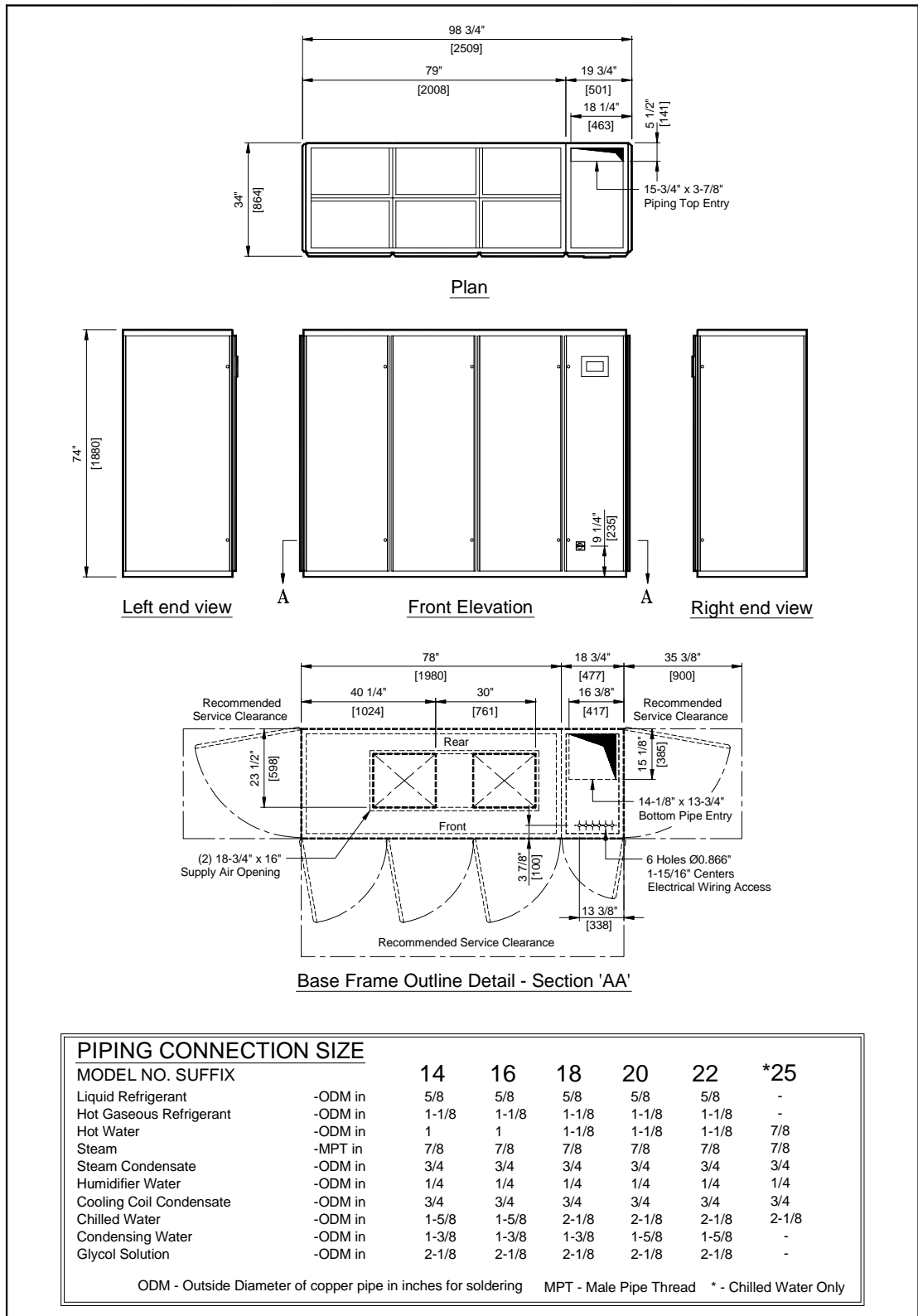
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25 March 2002

NOT TO SCALE



**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
STANDARD COOLING THREE MODULE UNIT**

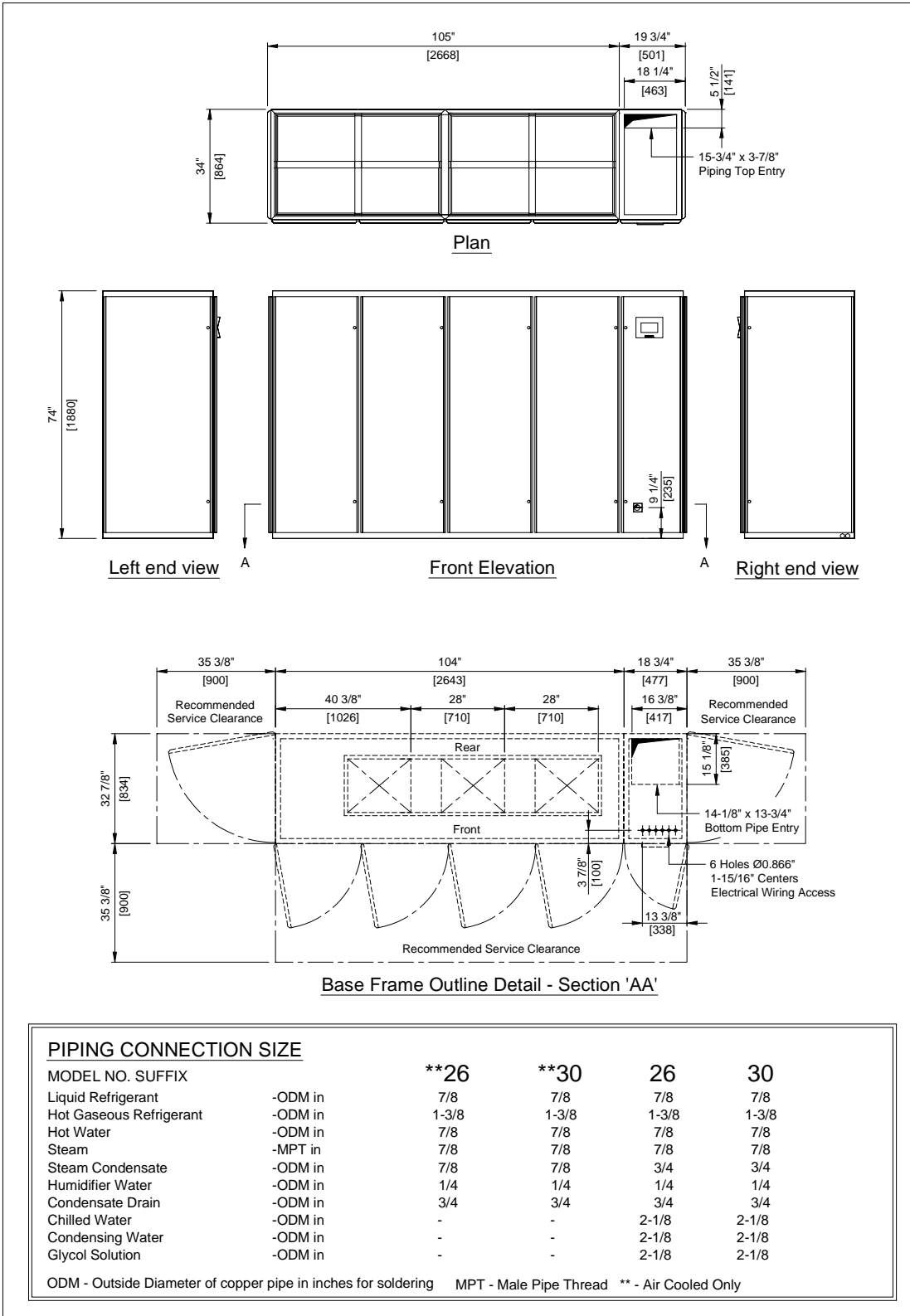


PIPING CONNECTION SIZE		14	16	18	20	22	*25
MODEL NO. SUFFIX							
Liquid Refrigerant	-ODM in	5/8	5/8	5/8	5/8	5/8	-
Hot Gaseous Refrigerant	-ODM in	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	-
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8	7/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8	-
Glycol Solution	-ODM in	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	-

ODM - Outside Diameter of copper pipe in inches for soldering MPT - Male Pipe Thread \* - Chilled Water Only



**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
STANDARD COOLING FOUR MODULE UNIT**



S9DD402C

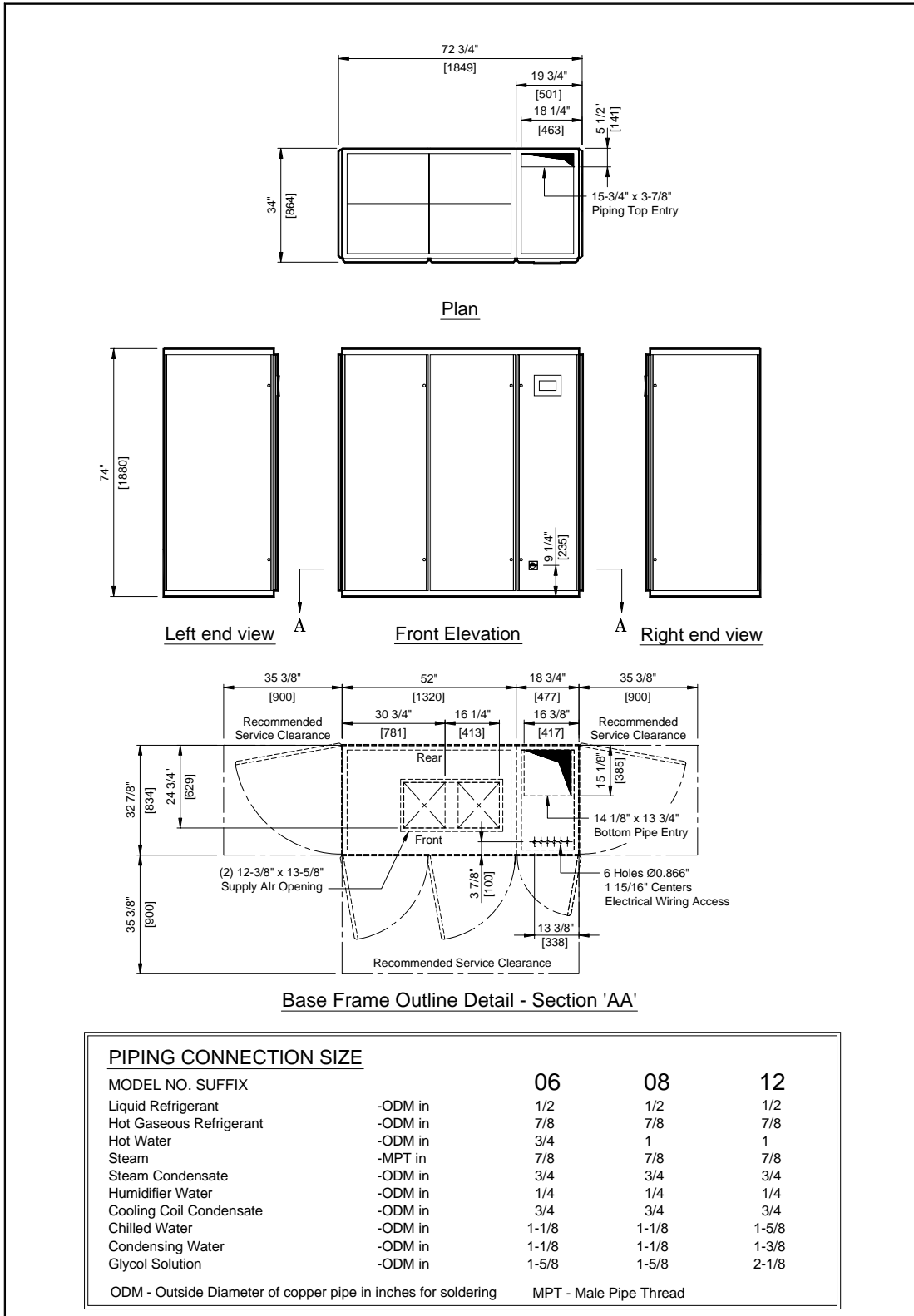
28 OCTOBER 2002

NOT TO SCALE





**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
STANDARD COOLING TWO MODULE UNIT**



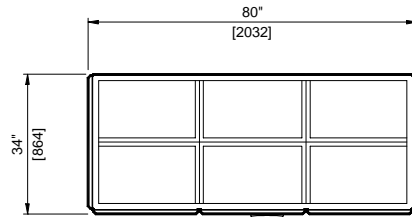
S9DD202A

28 November 2001

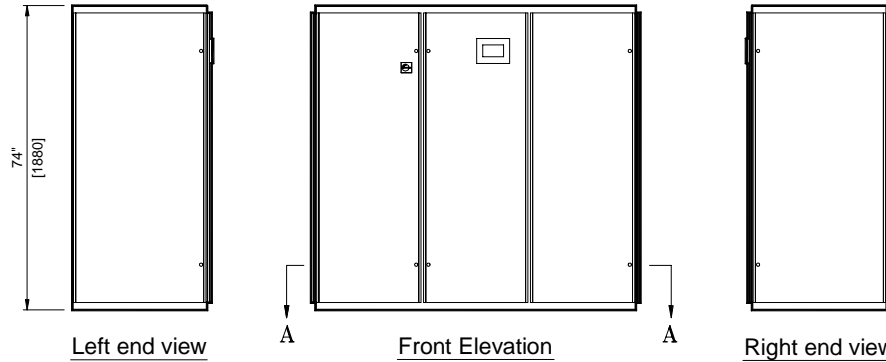
NOT TO SCALE



**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
CHILLED WATER COOLING (3+0) MODULE**



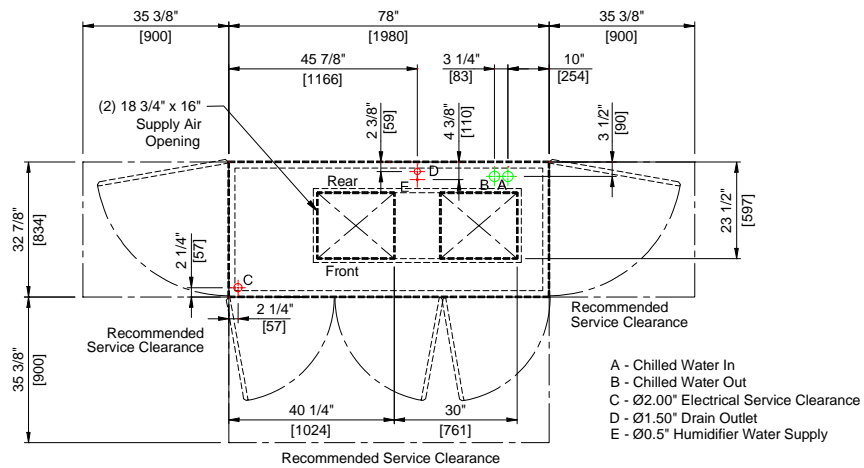
Plan



Left end view

Front Elevation

Right end view



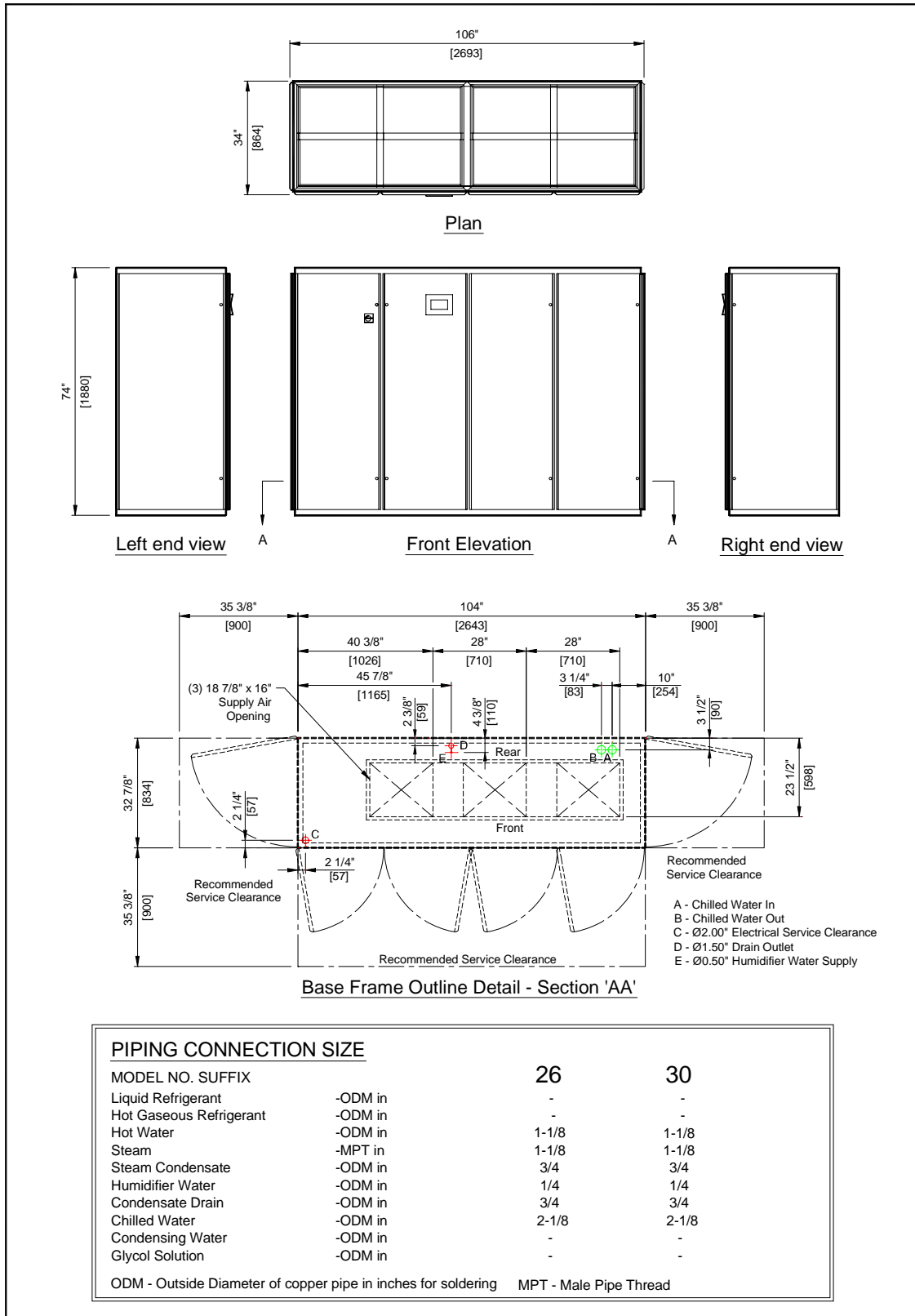
Base Frame Outline Detail - Section 'AA'

PIPING CONNECTION SIZE		14	16	18	20	22	*25
MODEL NO. SUFFIX							
Liquid Refrigerant	-ODM in	-	-	-	-	-	-
Hot Gaseous Refrigerant	-ODM in	-	-	-	-	-	-
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8	1-1/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	-	-	-	-	-	-
Glycol Solution	-ODM in	-	-	-	-	-	-

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread



**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
CHILLED WATER COOLING (4+0) MODULE**



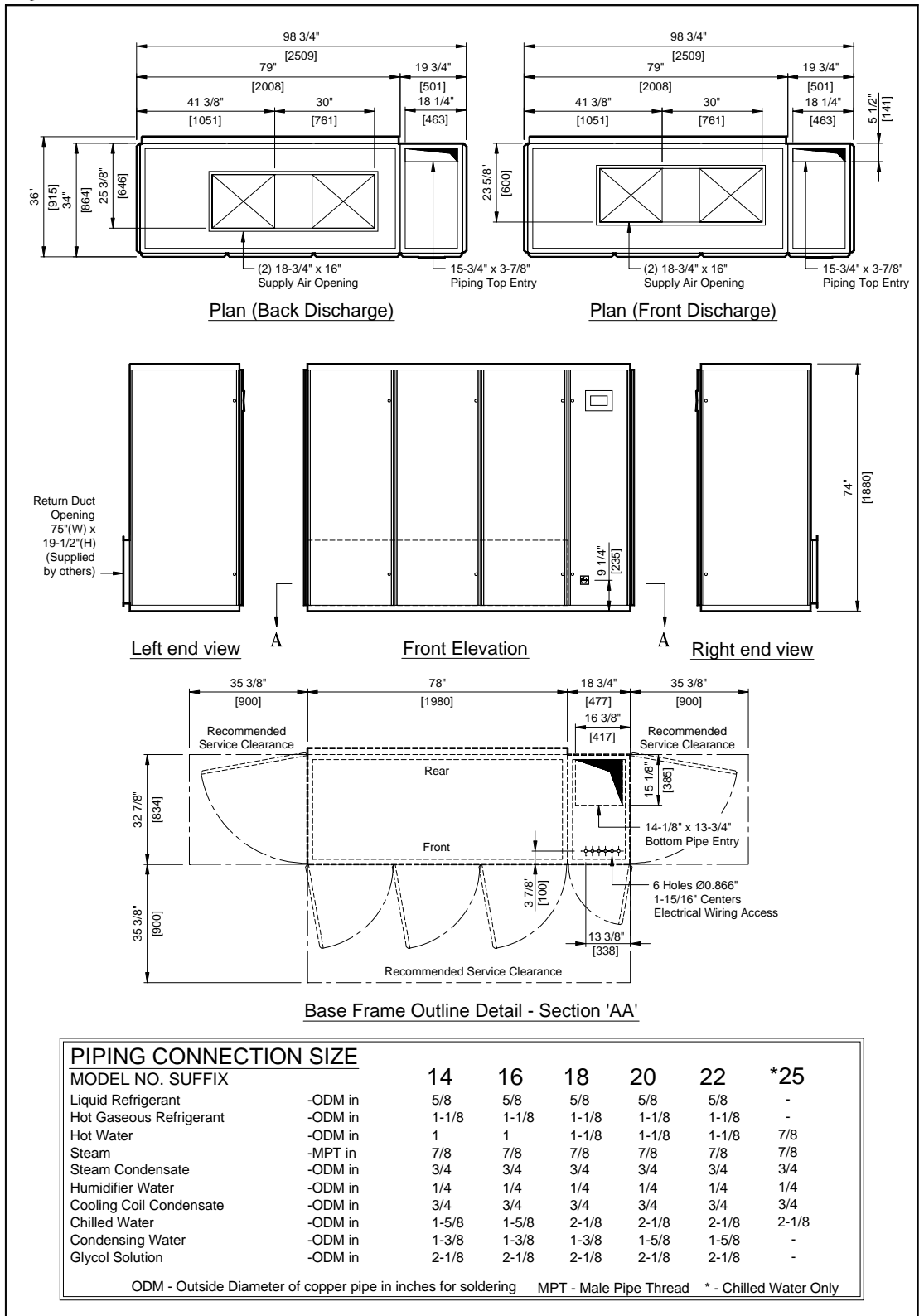
S9DD452C

24 JUNE, 2002

NOT TO SCALE



**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
REAR RETURN STD. COOLING THREE MODULE UNIT**

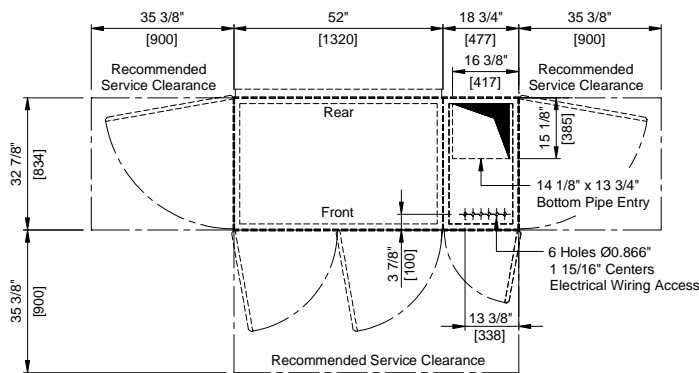
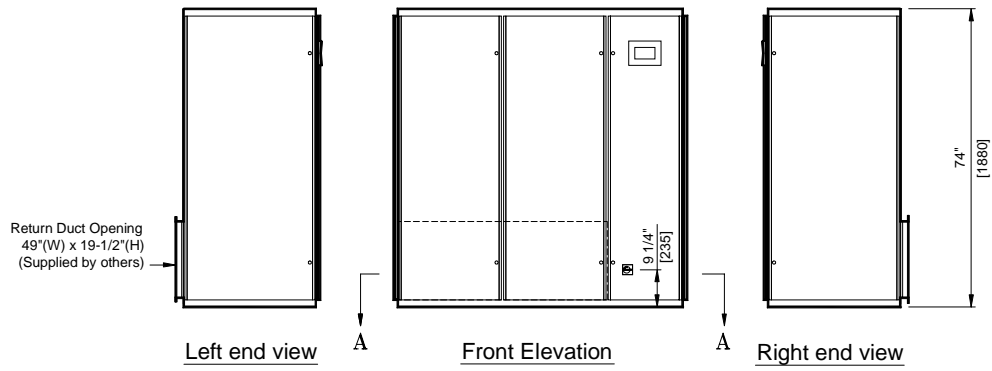
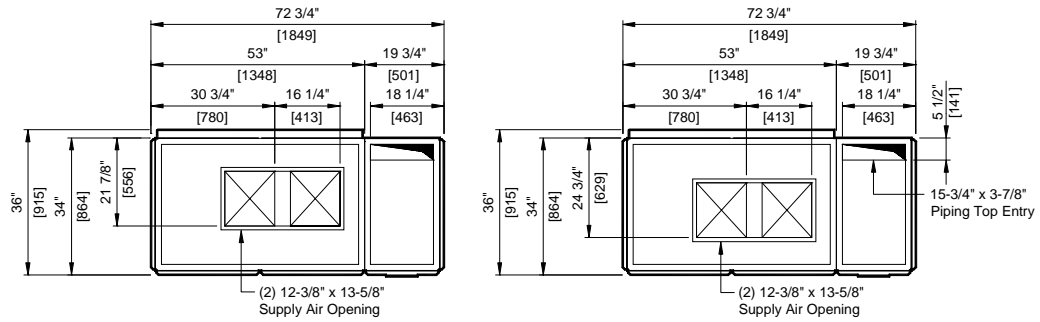


PIPING CONNECTION SIZE		14	16	18	20	22	*25
MODEL NO. SUFFIX							
Liquid Refrigerant	-ODM in	5/8	5/8	5/8	5/8	5/8	-
Hot Gaseous Refrigerant	-ODM in	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	-
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8	7/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	1-3/8	1-3/8	1-3/8	1-3/8	1-5/8	-
Glycol Solution	-ODM in	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	-

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread    \* - Chilled Water Only



**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
REAR RETURN STD. COOLING TWO MODULE UNIT**



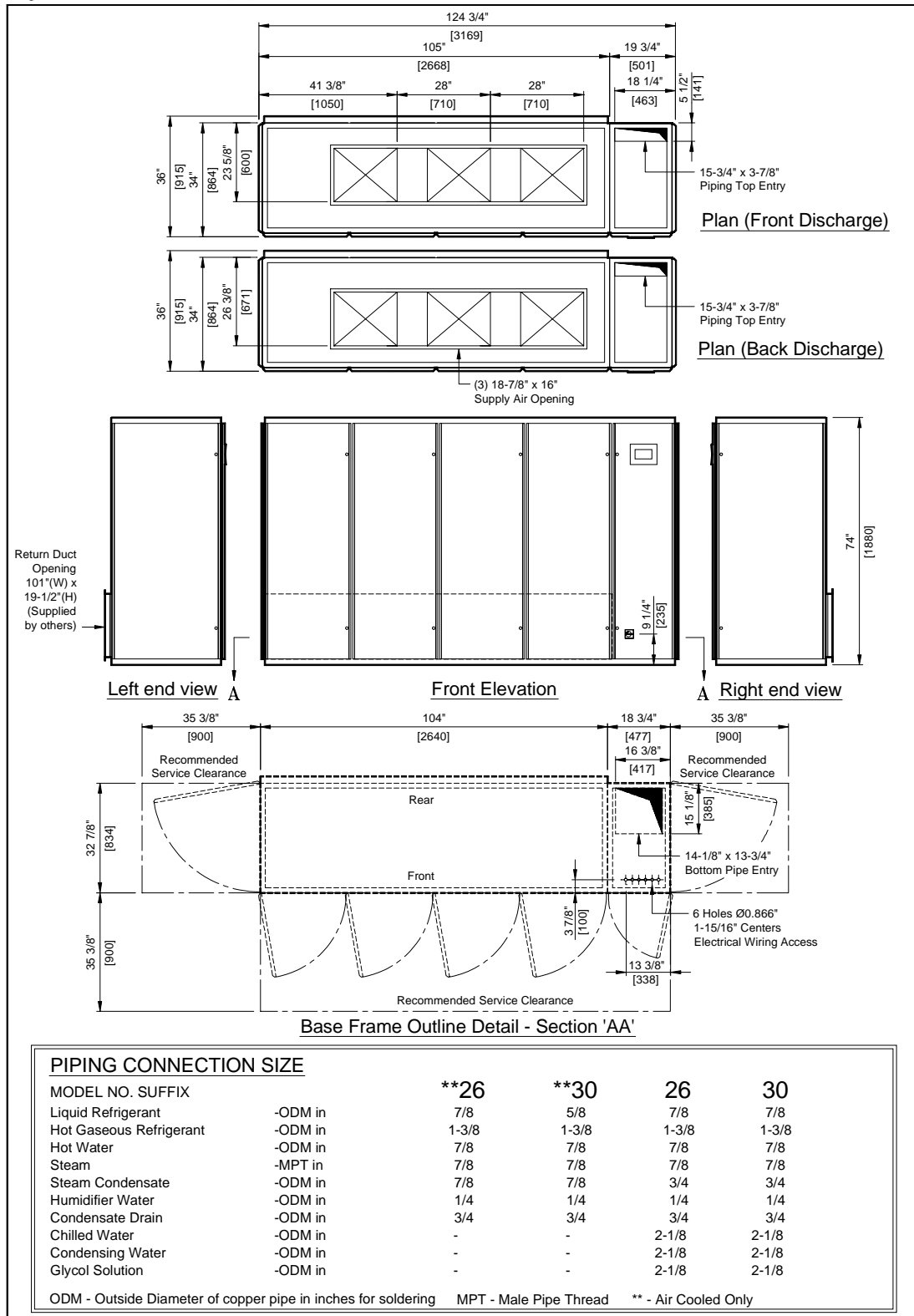
**Base Frame Outline Detail - Section 'AA'**

PIPING CONNECTION SIZE		06	08	12
MODEL NO. SUFFIX				
Liquid Refrigerant	-ODM in	1/2	1/2	1/2
Hot Gaseous Refrigerant	-ODM in	7/8	7/8	7/8
Hot Water	-ODM in	3/4	1	1
Steam	-MPT in	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4
Chilled Water	-ODM in	1-1/8	1-1/8	1-5/8
Condensing Water	-ODM in	1-1/8	1-1/8	1-3/8
Glycol Solution	-ODM in	1-5/8	1-5/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread



**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
REAR RETURN STD. COOLING FOUR MODULE UNIT**



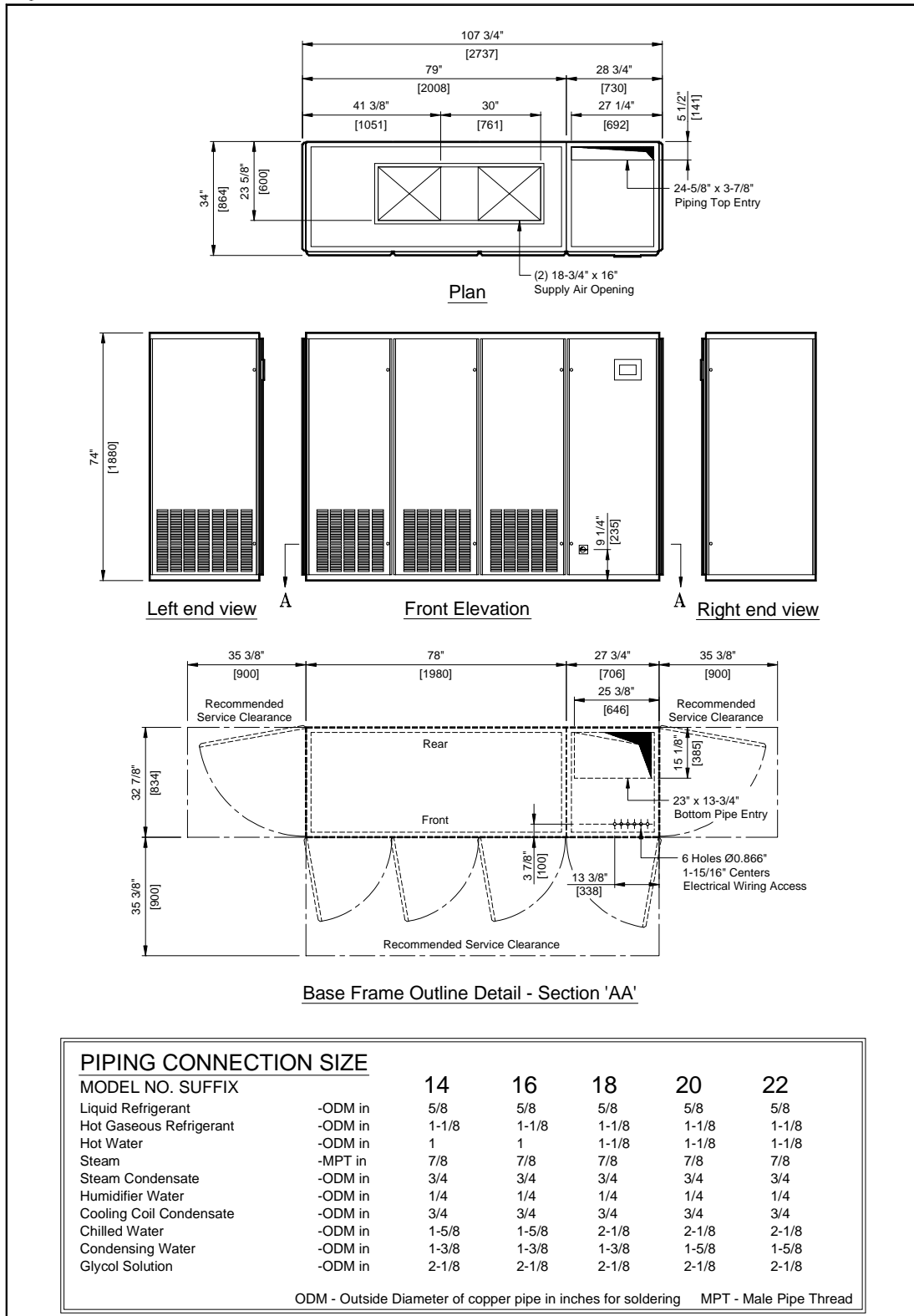
S9DD403B

07 February 2002

NOT TO SCALE



**SERIES 9-VERTICAL FLOOR MOUNT UPFLOW UNIT  
DUAL COOLING THREE MODULE UNIT**



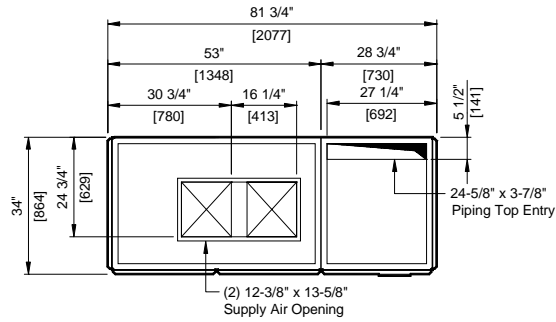
S9DD325A

29 November 2001

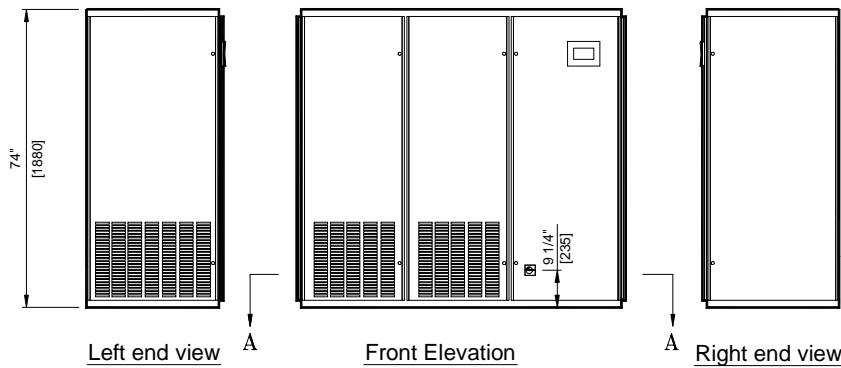
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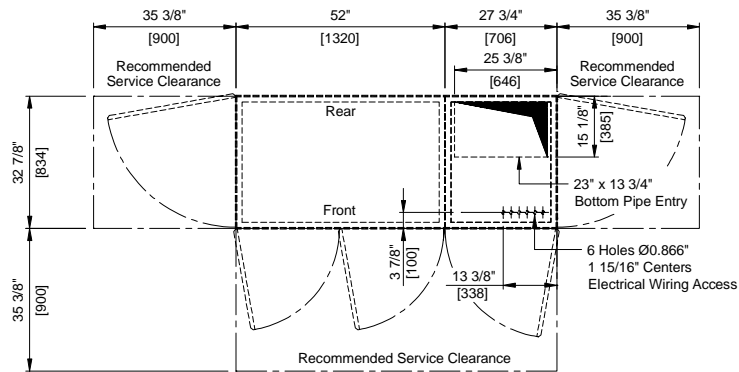
**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
DUAL COOLING TWO MODULE UNIT**



**Plan**



**Base Frame Outline Detail - Section 'AA'**



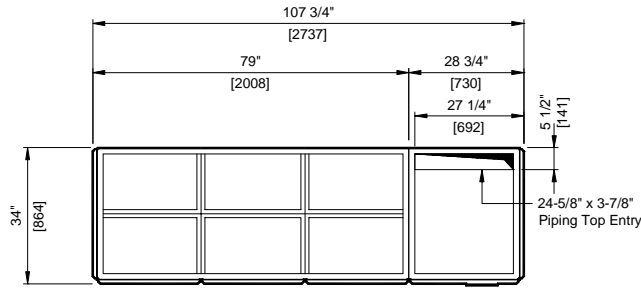
<b>PIPING CONNECTION SIZE</b>				
MODEL NO. SUFFIX		<b>06</b>	<b>08</b>	<b>12</b>
Liquid Refrigerant	-ODM in	1/2	1/2	1/2
Hot Gaseous Refrigerant	-ODM in	7/8	7/8	7/8
Hot Water	-ODM in	3/4	1	1
Steam	-MPT in	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4
Chilled Water	-ODM in	1-1/8	1-1/8	1-5/8
Condensing Water	-ODM in	1-1/8	1-1/8	1-3/8
Glycol Solution	-ODM in	1-5/8	1-5/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread

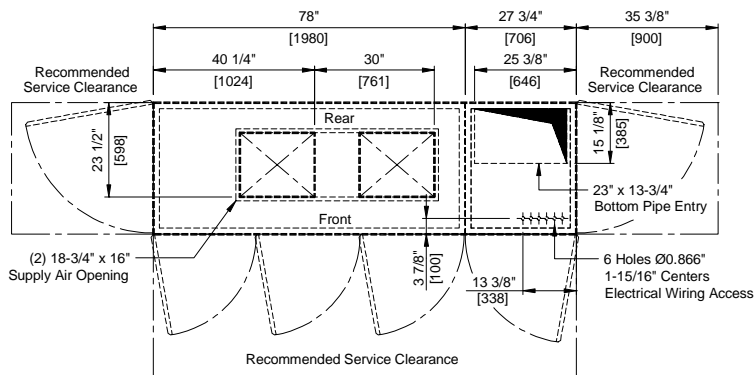
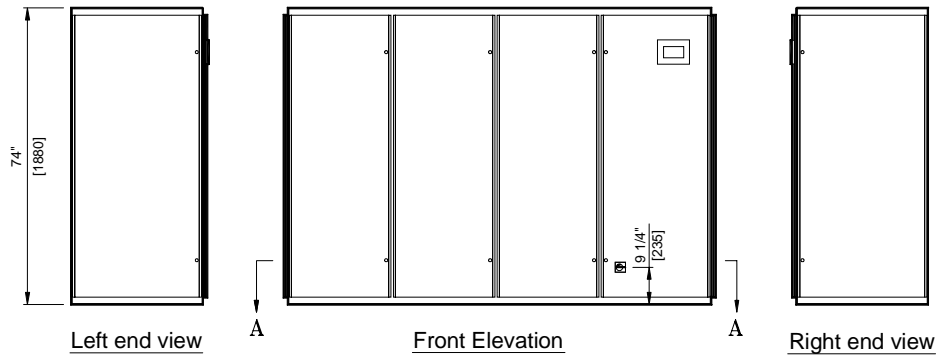




**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
DUAL COOLING THREE MODULE UNIT**



Plan



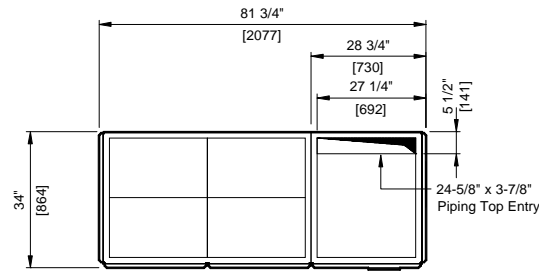
Base Frame Outline Detail - Section 'AA'

PIPING CONNECTION SIZE		14	16	18	20	22
MODEL NO.	SUFFIX					
Liquid Refrigerant	-ODM in	5/8	5/8	5/8	5/8	5/8
Hot Gaseous Refrigerant	-ODM in	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8
Glycol Solution	-ODM in	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8

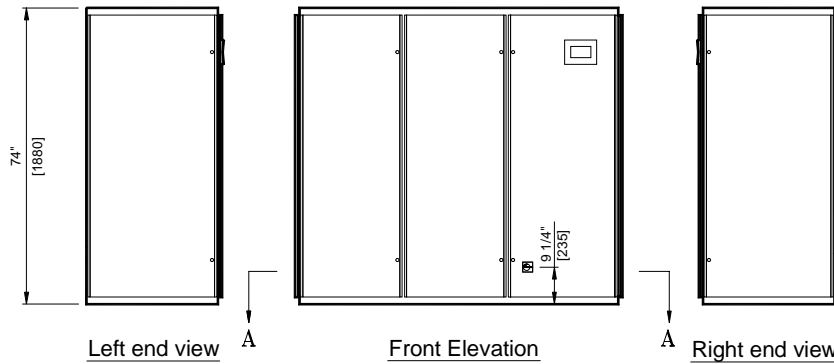
ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread



**SERIES 9-VERTICAL FLOOR MOUNT DOWNFLOW UNIT  
DUAL COOLING TWO MODULE UNIT**



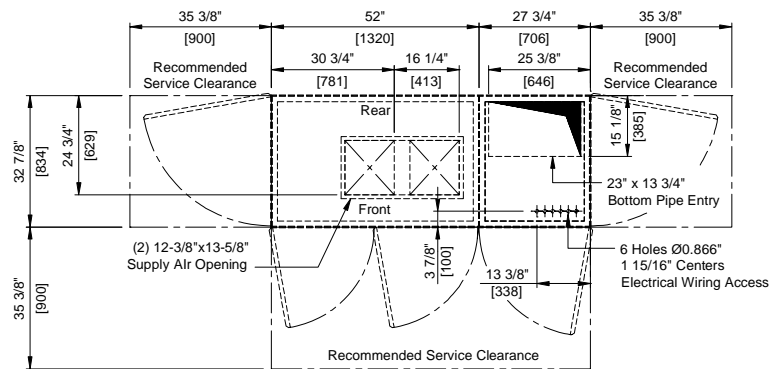
Plan



Left end view

Front Elevation

Right end view



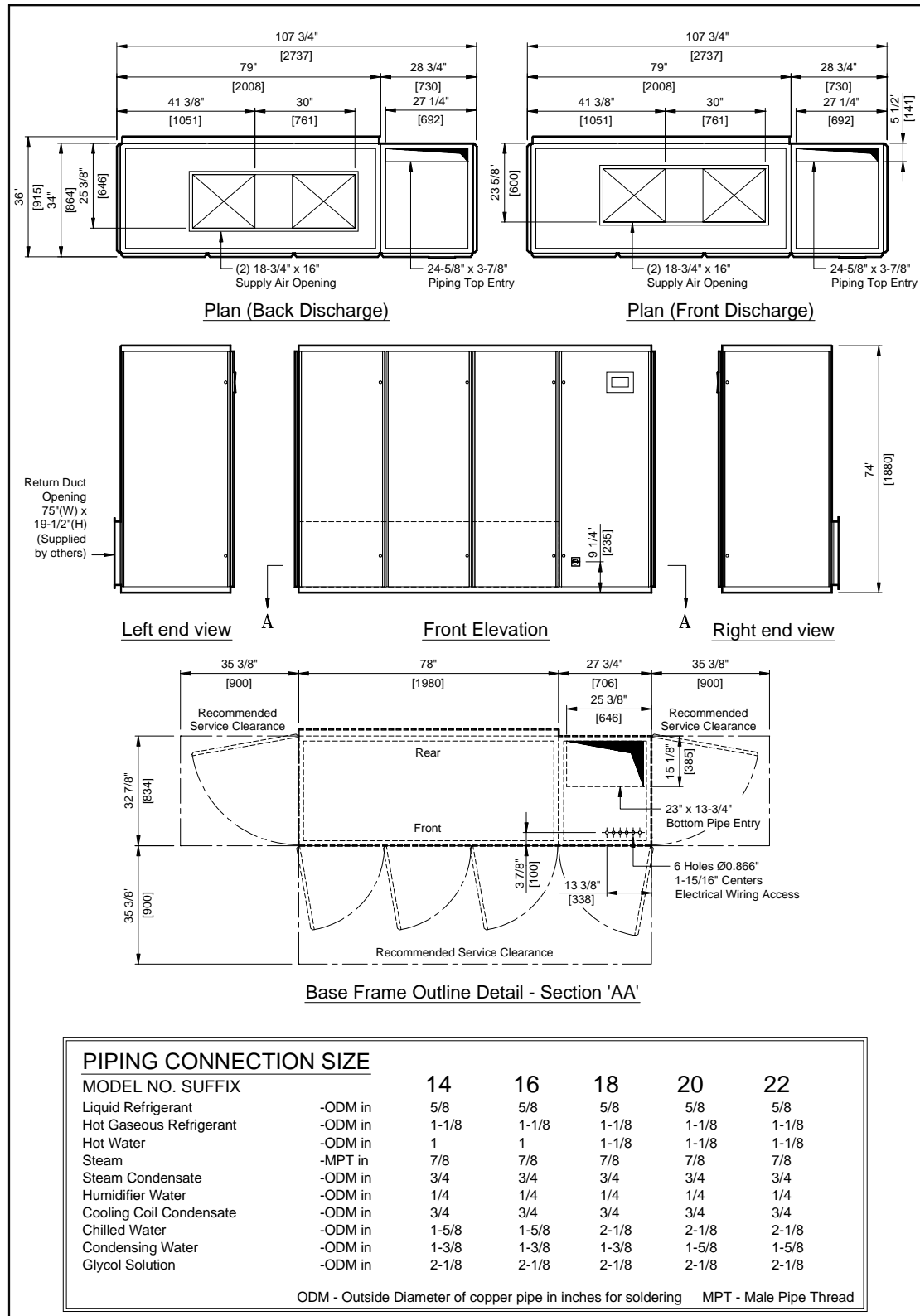
Base Frame Outline Detail - Section 'AA'

**PIPING CONNECTION SIZE**

MODEL NO. SUFFIX		06	08	12
Liquid Refrigerant	-ODM in	1/2	1/2	1/2
Hot Gaseous Refrigerant	-ODM in	7/8	7/8	7/8
Hot Water	-ODM in	3/4	1	1
Steam	-MPT in	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4
Chilled Water	-ODM in	1-1/8	1-1/8	1-5/8
Condensing Water	-ODM in	1-1/8	1-1/8	1-3/8
Glycol Solution	-ODM in	1-5/8	1-5/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread

**CLIMATEWORX INTERNATIONAL** SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
**REAR RETURN DUAL COOLING THREE MODULE UNIT**

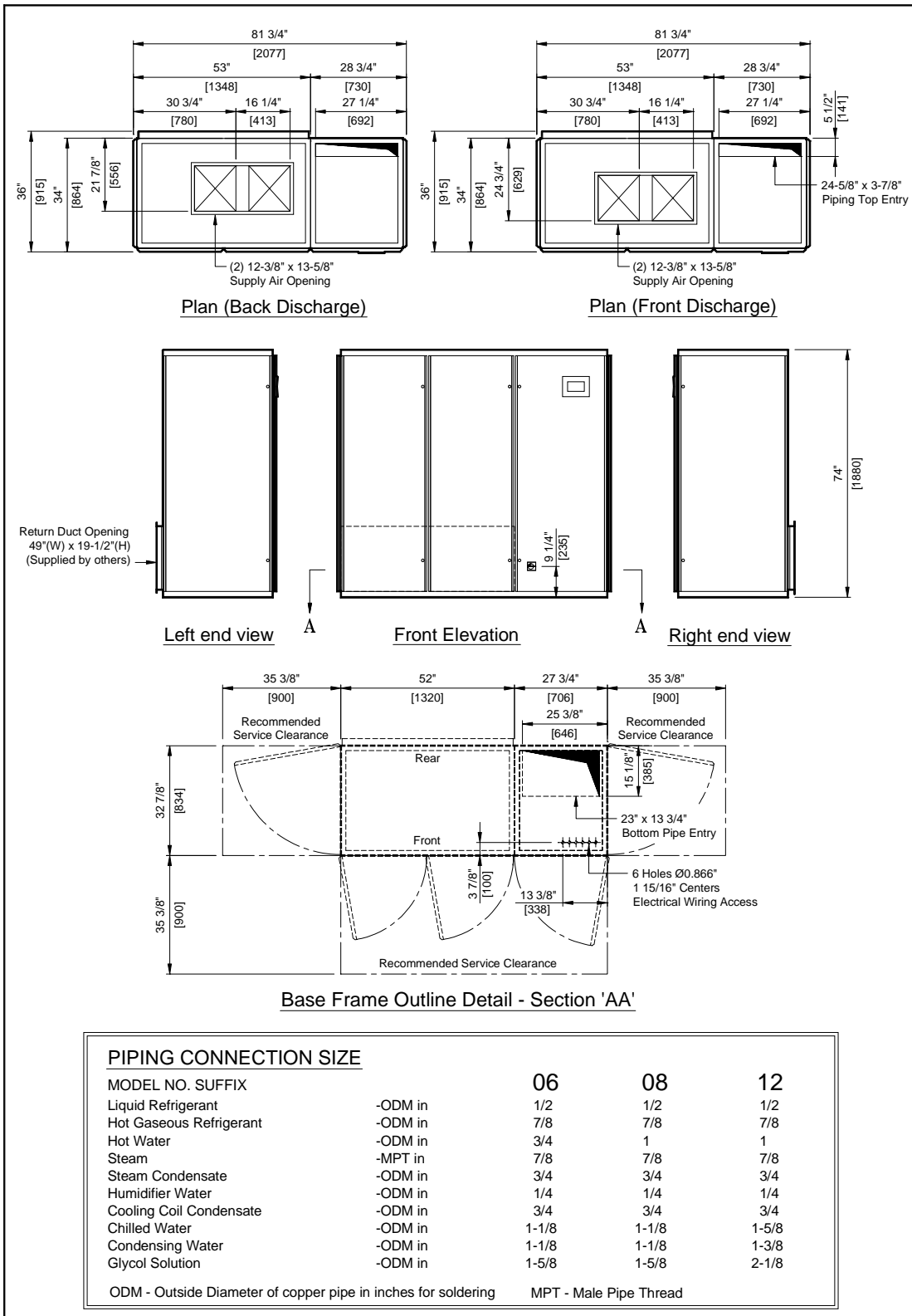


PIPING CONNECTION SIZE		14	16	18	20	22
MODEL NO. SUFFIX						
Liquid Refrigerant	-ODM in	5/8	5/8	5/8	5/8	5/8
Hot Gaseous Refrigerant	-ODM in	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
Hot Water	-ODM in	1	1	1-1/8	1-1/8	1-1/8
Steam	-MPT in	7/8	7/8	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4	3/4	3/4
Chilled Water	-ODM in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8
Condensing Water	-ODM in	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8
Glycol Solution	-ODM in	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering MPT - Male Pipe Thread



**SERIES 9- VERTICAL FLOOR MOUNT UPFLOW UNIT  
REAR RETURN DUAL COOLING TWO MODULE UNIT**



**PIPING CONNECTION SIZE**

MODEL NO. SUFFIX		06	08	12
Liquid Refrigerant	-ODM in	1/2	1/2	1/2
Hot Gaseous Refrigerant	-ODM in	7/8	7/8	7/8
Hot Water	-ODM in	3/4	1	1
Steam	-MPT in	7/8	7/8	7/8
Steam Condensate	-ODM in	3/4	3/4	3/4
Humidifier Water	-ODM in	1/4	1/4	1/4
Cooling Coil Condensate	-ODM in	3/4	3/4	3/4
Chilled Water	-ODM in	1-1/8	1-1/8	1-5/8
Condensing Water	-ODM in	1-1/8	1-1/8	1-3/8
Glycol Solution	-ODM in	1-5/8	1-5/8	2-1/8

ODM - Outside Diameter of copper pipe in inches for soldering    MPT - Male Pipe Thread