	DIMENSIO	NS & DATA	A CERTIFIE	ED FO	R:
Representativ	ve:			Order	-:
Customer:				Order	-:
Project:					
Requirements:					
			Ву:		Date
			NAME OF PART		MATERIAL
	<del>-</del>		Tank & Lid		inless Steel
	0 0		Heat Exchanger		. (SF & DI Models)
	<b>O</b> T	SNZ(C	Cap Screws & Nuts, Tank	Copper, Elect	troless Nickel Plate (CF Models) teel, Zinc Plated
>   4	۵.	H D D S74 NPT[DN20] - DRAIN	Float Assembly		inless Steel
	<del>  -</del>   - \ -	T	Dispersion Tube	1304 3(0)	iniess steer
		3/4 TAN DRA	Valve, Float Assembly Hose Cuffs	EPDM	
			Gasket, Inlet		na-N)
1 4	1		Gasket, Tank	SI (Sil	icone)
HOSE CLAMP	~	7[178] Typ.	Control Valve(Type) Steam Trap (IB)		30 W/ 18-8 SS Internals
F 62		7 [ 1 7	Strainer		CL. 30 W/SS Screen
STRAIGHT HOSE HOSE CLO	nlet Steam Supply		TECHNIC	AL INFO	ORMATION
1-1/4 NPT[DN32] STEAM INLET	Ste Sup		DESCRIPTIO	)N	MODELS; CS-11SF, CS-11CF & CS-11DI
T [ C		in be	A Length, Overall		29-5/16 [643]
Z-		2 11/16 [68] Indicated By Dotted	B Width, Overall C Length, Bottom Of	Taal	13-3/8 [340]
-1/4 FEAN		96	D Width, Tank	TUNK	27-1/4 [692] 13 [330]
-1- S1-		11/1/1683 1883 1984 Co	E Tank Bottom To Steam	n Outlet	22-7/8 [581]
Ē. /		2 1 2 1	F Tank Bottom To Top (	Of Lid	17-5/8 [448]
COM			G C Of Overflow To D		8-1/2 [216]
		ngs Fur	H Width, © Tank Flange J © Of Drain To © Cond.		12-1/4 [311] 7-3/4 [197]
WATER INLET	\ \ \	t + +	K © Return Line To Tar		4-3/32 [104]
3/8 WAT		Pipe/Fi	L & Return Line To & S		3-1/2 [89]
<u> </u>			N Tank Bottom To 1st F		1-3/16 [29]
			P C Water Supply To Tan R # Of Tank Flange Holes		7-1/2 [191] 12, 5/16 x 1/2 [8 x 13]
			R # Of lank Flange Holes S Dia. Of Steam Outle		2-3/8 [60]
	<u>ν</u>		T & Steam Outlet To Er		14-5/8 [371]
	1		U C Steam Outlet To Ea	dge Of Lid	6-11/16 [170]
∢	1		V C Steam Inlet To Edg		9-7/8 [251]
			DESIG	3N INFO	RMATION
			1 3 ' - 3-	Operating	215 [98]
		_	(Less Trap, Strainer & Control Valve) Shipp	oing	100 [45]
<u>' ' </u>			,		

Armstrong International, Inc.
Three Rivers Division
Three Rivers, MI 49093
Armstrong (269) 273-1415 Fax(269) 278-6555
Posted on Armstrong's homepage www.armstrong-intl.com

Product	CD No.	Date
HUMIDIFIER STEAM TO STEAM	1081	10/26/06
CS-11 Series	Rev; E	By; Paul G.

Dimensions in inches [mm] unless otherwise shown.

By: Dote  NAME OF PART MATERIAL  Tank & Lid T304 SS (CS-11SB). Copper, Electrotess Nickel Plated (CS-11C& CS-11SB). Copper, Electrotess Nickel Plated (CS-11C& CS-11SB). Copper, Electrotess Nickel Plated (CS-11C& CS-11CB). Copper, Electrotess Nickel Plated (CS-11CB). Copper, Electrotess Nic	DIMENSIONS & DATA	A CERTIFIE	D FOR:	
Project:  Requirements:  By: Date  NAME OF PART MATERIAL  Tank & Lid T304 SS (CS-11S & CS-11SB) Heat Exchanger Copper, Electroless Nickel Plated (CS-11C& CS-11CB) Cop Screws & Nuts, Tank Carbon Steel, Zinc Plated Level Control Electrodes 18-8 SS & Teflon Dispersion Tube T304 SS Control Panel (Not Shown) NEMA 12 Enclosure (ABS Plastic) Hose Cuffs EPDM Casket, Inlet NBR (Buna-N) Gasket, Inlet NBR (Buna-N) Tontrol Valve(Type) To Be Specified Steam Trap (IB) ASTM A48 CL. 30 W/ 1304 Screen Ionic Bed Material Inert Fiber Ionic Bed Material Inert Fiber Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS TECHNICAL INFORMATION	Representative:		Order:	
By: Date  NAME OF PART MATERIAL  Tank & Lid T304 SS (CS-11S & CS-11SB) (Copper, Electroless Nickel Plated (S-1108) (Copper, Electroless Nickel Plated (S-1	Customer:		Order:	
By:  NAME OF PART  Tank & Lid  Tank & Lid  Tank & Lid  Tank & Standard Score Standard Score Standard Standard Score Standard Score Standard Standar	Project:			
NAME OF PART  Tank & Lid  Tank & Lid  Tank & S (CS-11S & CS-11SB) Copper, Electroless Nickel Plated(CS-11CB) Cop Screws & Nuts, Tank Carbon Steel, Zinc Plated Level Control Electrodes 18-8 SS & Teflon Dispersion Tube Table Tank Control Panel (Not Shown) NEMA 12 Enclosure(ABS Plastic) Hose Cuffs Cosket, Inlet NBR (Buna-N) Gasket, Tank SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) Strainer, '7' ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, '7' ASTM A48 CL. 30 W/ T304 Screen Ionic Bed Material Inert Fiber Ionic Bed Frame Tank & Lid Tank & Lid Tank & Lid Tank & Lid Tank & Silestroless Nickel Plated(CS-11CB) Copper, Electroless Nickel Plated(CS-1	Requirements:			
NAME OF PART  Tank & Lid  Tank & Lid  Tank & S (CS-11S & CS-11SB) Copper, Electroless Nickel Plated(CS-11CB) Cop Screws & Nuts, Tank Carbon Steel, Zinc Plated Level Control Electrodes 18-8 SS & Teflon Dispersion Tube Table Tank Control Panel (Not Shown) NEMA 12 Enclosure(ABS Plastic) Hose Cuffs Cosket, Inlet NBR (Buna-N) Gasket, Tank SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) Strainer, '7' ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, '7' ASTM A48 CL. 30 W/ T304 Screen Ionic Bed Material Inert Fiber Ionic Bed Frame Tank & Lid Tank & Lid Tank & Lid Tank & Lid Tank & Silestroless Nickel Plated(CS-11CB) Copper, Electroless Nickel Plated(CS-1				
Tank & Lid T304 SS  Heat Exchanger T304 SS (CS-11S & CS-11SB) Copper, Electroless Nickel Plated(CS-11C & CS-11CB) Cap Screws & Nuts, Tank Carbon Steel, Zinc Plated Level Control Electrodes 18-8 SS & Teflon Dispersion Tube T304 SS Control Panel (Not Shown) NEMA 12 Enclosure(ABS Plastic) Hose Cuffs EPDM Gasket, Inlet NBR (Buna-N) Gasket, Inlet NBR (Buna-N) Gasket, Tank SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (1B) ASTM A48 CL. 30 W/ 1304 Screen Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION		Ву:	Do	ate
Heat Exchanger  Cap Screws & Nuts, Tank Carbon Steel, Zinc Plated Level Control Electrodes 18-8 SS & Teflon Dispersion Tube T304 SS  Control Panel (Not Shown) NEMA 12 Enclosure (ABS Plastic) Hose Cuffs  Gasket, Inlet NBR (Buna-N) Gasket, Tank SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, 'Y' ASTM A48 CL. 30 W/ 1304 Screen Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION	<del>-</del>	NAME OF PART	MATE	RIAL
Copper, Electroless Nickel Plated (CS-11C & CS-11C & CS-1		Tank & Lid		
Gasket, Inlet SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) Strainer, 'Y' ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, 'Y' Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION		Heat Exchanger		
Gasket, Inlet SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) Strainer, 'Y' ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, 'Y' Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION			Carbon Steel, Z	inc Plated
Gasket, Inlet SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) Strainer, 'Y' ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, 'Y' Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION				n
Gasket, Inlet SI (Silicone) Control Valve(Type) To Be Specified Steam Trap (IB) Strainer, 'Y' ASTM A48 CL. 30 W/ 18-8 SS Internals Strainer, 'Y' Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION	A A A A A A A A A A A A A A A A A A A	Control Panel (Not Shown)	NEMA 12 Enclosu	re(ABS Plastic)
Gasket, Tank  Control Valve(Type) To Be Specified  Steam Trap (IB)  Strainer, 'Y'  ASTM A48 CL. 30 W/ 18-8 SS Internals  Strainer, 'Y'  Ionic Bed Material Inert Fiber  Ionic Bed Frame  T304 SS  TECHNICAL INFORMATION				
Control Valve(Type) To Be Specified  Steam Trap (IB) ASTM A48 CL. 30 W/ 18-8 SS Internals  Strainer, 'Y' ASTM A48 CL. 30 W/ T304 Screen  Ionic Bed Material Inert Fiber  Ionic Bed Frame T304 SS  TECHNICAL INFORMATION				
Strainer, 'Y' ASTM A48 CL. 30 W/ T304 Screen  Ionic Bed Material Inert Fiber  Ionic Bed Frame T304 SS  TECHNICAL INFORMATION		Control Valve(Type)	To Be Specified	
Ionic Bed Material Inert Fiber Ionic Bed Frame T304 SS  TECHNICAL INFORMATION				
TECHNICAL INFORMATION    Solution   Control	7			W/ 1304 3CTCCII
TECHNICAL INFORMATION	Σ TT	Ionic Bed Frame	T304 SS	
DESCRIPTION   MODELS;   CS-11SB & CS-11CB   A Length, Overall   36 [914]   B Width, Overall   13-3/8 [340]	THE CHOS CLASS IN THE CHOSE CLAS	TECHNIC	al informat	ION
A Length, Overall 36 [914]  B Width, Overall 13-3/8 [340]	Su S	DESCRIPTIO		
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	in in the state of	A Lenath, Overall		
	I N I I N I N I N I N I N I N I N I N I	B Width, Overall	13-	3/8 [340]
Z = C Length, Bottom Of Tank 27-1/4 [692]	42M + 190   190	3		
D Width, Tank 13 [330]	Policy Company of the			
H = H + H + H + H + H + H + H + H + H +				
G Q Of Overflow To Drain 15/16 [24]	86.3 C-L	I		
H Width, © Tank Flange Holes 12–1/4 [311]				
G Q Of Overflow To Drain 15/16 [24]  H Width, Q Tank Flange Holes 12-1/4 [311]  J Q Of Drain To Q Cond. Outlet 7-3/4 [197]  K Q Return Line To Tank Bottom 4-3/32 [104]	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	_		
N Tank Bottom To 1st Flange Hole 1-3/16 [29]	L DON		ange Hole 1-3	/16 [29]
L C Return Line To C Steam Inlet   3-1/2 [89]   N Tank Bottom To 1st Flange Hole   1-3/16 [29]   P C Water Supply To Tank Overflow   13-7/8 [352]   R # Of Tank Flange Holes(Both Ends) 12, 5/16 x 1/2 [8 x 13]   S Dia. Of Steam Outlet   2-3/8 [60]	L L L L L L L L L L L L L L L L L L L			
R # Of Tank Flange Holes(Both Ends) 12, 5/16 x 1/2 [8 x 13] S Dia. Of Steam Outlet 2-3/8 [60]				
T © Steam Outlet To End Of Lid 14-5/8 [371]				
U & Steam Outlet To Edge Of Lid 6-11/16 [170]		U & Steam Outlet To Ed	ge Of Lid 6-1	
✓ V Q Steam Inlet To Edge Of Lid 9-7/8 [251]	∢			
DESIGN INFORMATION		DESIG	n informat	ION
Weight, Ibs[kg] Max. Operating 215 [98]		, , , , , , , , , , , , , , , , , , , ,	Operating 215	[98]
(Less Trap, Strainer Shipping 100 [45]		(Less Trap, Strainer & Control Valve) Shipp	ing 100	[45]
Dimensions in inches [mm] unless otherwise shown.		Dimensions in inch	es [mm] unless othe	erwise shown.
Armstrong International, Inc. Product CD No. Date			CD No.	Date
Three Rivers Division HUMIDIFIER 1081 10/27/06	Three Rivers Division Three Rivers MI 49093		1081	10/27/06
Armstrong (269) 273-1415 Fax(269) 278-6555   STEANN TO STEANN Sht. 2	$\Delta rmstrong$ (269) 273-1415   Fax(269) 278-6555		Sht. 2	

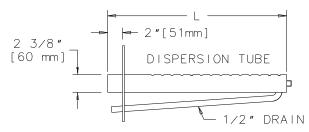
CS-11 Steam Capacity Ratings				
Steam Pressure psig [bar]	output 1867	∈   hr [kg/hr]   CS-11C (Copper Coil)		
2 [.14]	2 [.9]	3 [1.4]		
5 [.34]	10 [4.5]	30 [13.6]		
10 [.69]	30 [14]	65 [30]		
13 [.90]	33 [15]	92 [42]		
15 [1] Max.	35 [16]	110 [50]		

OPTION LIST	
Humidistat Control (Room or Duct) High Limit	
Air Flow Pressure Switch	
Dispersion Tube	
Support Legs	
Insulation, Tank	
Humidipack	

Capacities Based On Supply Pressure Before The Control Valve

STANDARD OPERATORS			
Туре	Model & Manufacturer	Control Signal	
Dia compa ti i a	HAM Honeywell MP953D	Operating Range, 4-11 psi Standard 8-13 psi 3-7 psi	
Pneumatic	HAM Honeywell MP953F	Adjustable Start Point Standard Range, 5 psi (Has Pilot Optional Range, 10 or 3 psi	
	HEM Honeywell M9182A	0-135 ohm Standard; 4-20 mA w/A9847 & 2-10 VDC w/ Optional Module A10024	
Electric	BLEM Belimo AF24SR	0-10 VDC, 4-20 mA	
	BNVEM Belimo NVF24		

SELECTING PROPER DISPERSION TUBE				
Model	Length "L"	Duct	Width	Weight
CS-14	in [mm]	Min.	Max.	lb/hr [kg/hr]
DL-1	12 [305]	11 [279]	16 [406]	2.7 [1.2]
DL-1.5	18 [457]	17 [432]	22 [559]	3.4 [1.5]
DL-2	24 [610]	23 [584]	34 [864]	4 [1.8]
DL-3	36 [914]	35 [889]	46 [1168]	6 [2.7]
DL-4	48 [1219]	47 [1194]	58 [1473]	8 [3.6]
DL-5	60 [1524]	59 [1499]	70 [1778]	10 [4.5]
DL-6	72 [1829]	71 [1803]	82 [2083]	12 [5.4]
DL-7	84 [2134]	83 [2108]	94 [2388]	14 [6.4]
DL-8	96 [2438]	95 [2413]	106 [2692]	16 [7.3]
DL-9	108 [2743]	107 [2718]	118 [2997]	18 [8.2]
DL-10	120 [3048]	119 [3023]	130 [3302]	20 [9.1]



$\Delta \Delta$	Armstrong International, Inc.
	Three Rivers Division
	Three Rivers, MI 49093
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	mstrong's homepage www.armstrong-intl.com

Product	CD No.	Date
HUMIDIFIER STEAM TO STEAM	CD1081 Sht. 3	10/30/06
CS-11 Series	Rev; E	By; Paul G.