



EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		(N1)		(N2)	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-102-4E1	41 5/8	1057	24 1/2	622	15 1/4	387	26	660	4	102	1 1/2	38
WS-103-4E1	53 5/8	1362	36 1/2	927	27 1/4	692	38	965	4	102	1 1/2	38
WS-104-4E1	65 5/8	1667	48 1/2	1232	39 1/4	997	50	1270	6	152	2	51
WS-105-4E1	77 5/8	1972	60 1/2	1537	51 1/4	1302	62	1575	6	152	2	51
WS-106-4E1	89 5/8	2276	72 1/2	1842	63 1/4	1607	74	1880	6	152	2	51
WS-107-4E1	101 5/8	2581	84 1/2	2146	75 1/4	1911	86	2184	6	152	2	51
WS-108-4E1	113 5/8	2886	96 1/2	2451	87 1/4	2216	98	2489	6	152	2	51
WS-109-4E1	125 5/8	3191	108 1/2	2756	99 1/4	2521	110	2794	6	152	2	51
WS-1010-4E1	137 5/8	3496	120 1/2	3061	111 1/4	2826	122	3099	6	152	2	51
WS-1011-4E1	149 5/8	3800	132 1/2	3366	123 1/4	3131	134	3404	6	152	2	51
WS-1012-4E1	161 5/8	4105	144 1/2	3670	135 1/4	3435	146	3708	6	152	2	51
WS-1013-4E1	173 5/8	4410	156 1/2	3975	147 1/4	3740	158	4013	6	152	2	51
WS-1014-4E1	185 5/8	4715	168 1/2	4280	159 1/4	4045	170	4318	6	152	2	51
WS-1015-4E1	197 5/8	5020	180 1/2	4585	171 1/4	4350	182	4623	6	152	2	51

NOZZLE SCHEDULE				
SERVICE	MARK	SHELL SIDE	MARK	TUBE SIDE
INLET	(N1)	AS PER TABLE	(N5)	3 (76) NPT
OUTLET	(N2)	AS PER TABLE	(N6)	3 (76) NPT
DRAIN	(N3)	1/2 (13) NPT	(N7)	1/2 (13) NPT
VENT	(N4)	3/4 (19) NPT		

- NOTES: 1. SUPPORTS SUPPLIED ONLY IF SPECIFIED ON ORDER.
 2. NOZZLE SIZES SHOWN ARE RECOMMENDED FOR MAXIMUM EXCHANGER LIFE.
 3. FABRICATED TO ASME CODE SECTION VIII DIVISION 1 AND LATEST ADDENDA.
 4. DRAWING IS NOT TO SCALE.
 5. ALL DIM'S ±1/8 (3) UNLESS OTHERWISE SHOWN.

DESIGN CONDITIONS				
	SHELL		TUBES	
DESIGN PRESSURE	150 PSIG	1034 KPa	150 PSIG	1034 KPa
DESIGN TEMPERATURE	375 °F	191 °C	375 °F	191 °C
MIN. DESIGN METAL TEMP.	35 °F	1.7 °C	35 °F	1.7 °C
HYDRO. TEST PRESSURE	225 PSIG	1551 KPa	300 PSIG	2068 KPa
CONTENTS	STEAM		WATER	

CUSTOMER: _____
 LOCATION: _____
 ENGINEER: _____
 ORDER No.: _____
 PROJECT/JOB: _____
 LOCATION: _____
 TAG: _____ (QUOTE # _____)

TITLE	G.A. 150 LB. WS SERIES HEAT EXCHANGERS				A R M S T R O N G				NUMBER	WS-10-4P-E1	REV.
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