



DIMENSIONS SHOWN AS: inches (mm)

EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		(N1)		(N2)	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-143-2E1	57 1/4	1454	37	940	26	660	38	965	6	152	2	51
WS-144-2E1	69 1/4	1759	49	1245	38	965	50	1270	6	152	2	51
WS-145-2E1	81 1/4	2064	61	1549	50	1270	62	1575	8	203	2 1/2	64
WS-146-2E1	93 1/4	2369	73	1854	62	1575	74	1880	8	203	2 1/2	64
WS-147-2E1	105 1/4	2673	85	2159	74	1880	86	2184	8	203	2 1/2	64
WS-148-2E1	117 1/4	2978	97	2464	86	2184	98	2489	8	203	2 1/2	64
WS-149-2E1	129 1/4	3283	109	2769	98	2489	110	2794	8	203	2 1/2	64
WS-1410-2E1	141 1/4	3588	121	3073	110	2794	122	3099	8	203	2 1/2	64
WS-1411-2E1	153 1/4	3893	133	3378	122	3099	134	3404	8	203	2 1/2	64
WS-1412-2E1	165 1/4	4197	145	3683	134	3404	146	3708	8	203	2 1/2	64
WS-1413-2E1	177 1/4	4502	157	3988	146	3708	158	4013	8	203	2 1/2	64
WS-1414-2E1	189 1/4	4807	169	4293	158	4013	170	4318	8	203	2 1/2	64
WS-1415-2E1	201 1/4	5112	181	4597	170	4318	182	4623	8	203	2 1/2	64

### NOZZLE SCHEDULE

SERVICE	MARK	SHELL SIDE	MARK	TUBE SIDE
INLET	(N1)	AS PER TABLE	(N5)	6 (152) NPT
OUTLET	(N2)	AS PER TABLE	(N6)	6 (152) NPT
DRAIN	(N3)	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 DIMN'S ±1/8 (3) UNLESS OTHERWISE SHOWN.

### DESIGN CONDITIONS

	SHELL		TUBES	
DESIGN PRESSURE	150 PSIG	1034 KPa	125 PSIG	862 KPa
DESIGN TEMPERATURE	375 °F	191 °C	375 °F	191 °C
MIN. DESIGN METAL TEMP.	40 °F	4.4 °C	40 °F	4.4 °C
HYDRO. TEST PRESSURE	225 PSIG	1551 KPa	250 PSIG	1723 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-14-2P-E1	REV.			
DATE:	12 / 01 / 94	BY:	D.C.R.	TEL :	(416) 755-2291	MONTREAL - CANADA	TEL : (514) 421-2424	BUFFALO - N. Y.	TEL : (716) 693-8813	COLCHESTER - U.K.	TEL : (44) 120-657-9491