



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-143-4E4	65 1/8	1654	37	940	26	660	38	965	6	152	2	51
WS-144-4E4	77 1/8	1959	49	1245	38	965	50	1270	6	152	2	51
WS-145-4E4	89 1/8	2264	61	1549	50	1270	62	1575	8	203	2 1/2	64
WS-146-4E4	101 1/8	2569	73	1854	62	1575	74	1880	8	203	2 1/2	64
WS-147-4E4	113 1/8	2873	85	2159	74	1880	86	2184	8	203	2 1/2	64
WS-148-4E4	125 1/8	3178	97	2464	86	2184	98	2489	8	203	2 1/2	64
WS-149-4E4	137 1/8	3483	109	2769	98	2489	110	2794	8	203	2 1/2	64
WS-1410-4E4	149 1/8	3788	121	3073	110	2794	122	3099	8	203	2 1/2	64
WS-1411-4E4	161 1/8	4093	133	3378	122	3099	134	3404	8	203	2 1/2	64
WS-1412-4E4	173 1/8	4397	145	3683	134	3404	146	3708	8	203	2 1/2	64
WS-1413-4E4	185 1/8	4702	157	3988	146	3708	158	4013	8	203	2 1/2	64
WS-1414-4E4	197 1/8	5007	169	4293	158	4013	170	4318	8	203	2 1/2	64
WS-1415-4E4	209 1/8	5312	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)	4 (102) FLG
OUTLET	(N2)	AS PER TABLE	(N6)	4 (102) FLG
DRAIN	(N3)	1/2 (13)NPT	(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 DIM'S ±1/8 (3) UNLESS OTHERWISE SHOWN.

### DESIGN CONDITIONS

	SHELL		TUBES	
	PSIG	KPo	PSIG	KPo
DESIGN PRESSURE	150	1034	150	1034
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	1551	225	1551
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-14-4P-E4	REV.			
DATE:	12/01/94	BY:	D.C.R.	TEL:	(416) 755-2291	TEL:	(514) 421-2424	TEL:	(716) 693-8813	TEL:	(44) 120-657-9491