



DIMENSIONS SHOWN AS: inches (mm)

2 - 1 (25) DIA. HOLES (TYP.)

EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		N1		N2	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-168-4E4	130 5/8	3318	97 1/4	2470	83	2108	98	2489	10	254	3	76
WS-169-4E4	142 5/8	3623	109 1/4	2775	95	2413	110	2794	10	254	3	76
WS-1610-4E4	154 5/8	3927	121 1/4	3080	107	2718	122	3099	10	254	3	76
WS-1611-4E4	166 5/8	4232	133 1/4	3385	119	3023	134	3404	10	254	3	76
WS-1612-4E4	178 5/8	4537	145 1/4	3689	131	3327	146	3708	10	254	3	76
WS-1613-4E4	190 5/8	4842	157 1/4	3994	143	3632	158	4013	10	254	3	76
WS-1614-4E4	202 5/8	5147	169 1/4	4299	155	3937	170	4318	10	254	3	76
WS-1615-4E4	214 5/8	5451	181 1/4	4604	167	4242	182	4623	10	254	3	76

### 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	(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	
	PSIG	KPa	PSIG	KPa
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	WSX-16-4P-E4-(10)	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