



Steam inlet pressure not to exceed 30 psig.
For higher steam pressure, use Extended shell.

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-42-2-1	27 7/8	708	15 3/4	400	9 1/2	241	26	660	2	51	1	25
WS-43-2-1	39 7/8	1013	27 3/4	705	21 1/2	546	38	965	2	51	1	25
WS-44-2-1	51 7/8	1318	39 3/4	1010	33 1/2	851	50	1270	2	51	1	25
WS-45-2-1	63 7/8	1622	51 3/4	1314	45 1/2	1156	62	1575	2 1/2	64	1 1/4	32
WS-46-2-1	75 7/8	1927	63 3/4	1619	57 1/2	1461	74	1880	2 1/2	64	1 1/4	32
WS-47-2-1	87 7/8	2232	75 3/4	1924	69 1/2	1765	86	2184	2 1/2	64	1 1/4	32
WS-48-2-1	99 7/8	2537	87 3/4	2229	81 1/2	2070	98	2489	2 1/2	64	1 1/4	32
WS-49-2-1	111 7/8	2842	99 3/4	2534	93 1/2	2375	110	2794	2 1/2	64	1 1/4	32
WS-410-2-1	123 7/8	3146	111 3/4	2838	105 1/2	2680	122	3099	2 1/2	64	1 1/4	32
WS-411-2-1	135 7/8	3451	123 3/4	3143	117 1/2	2985	134	3404	2 1/2	64	1 1/4	32
WS-412-2-1	147 7/8	3756	135 3/4	3448	129 1/2	3289	146	3708	2 1/2	64	1 1/4	32

NOZZLE SCHEDULE				
SERVICE	MARK	SHELL SIDE	MARK	TUBE SIDE
INLET	(N1)	AS PER TABLE	(N5)	1 1/4 (32) NPT
OUTLET	(N2)	AS PER TABLE	(N6)	1 1/4 (32) 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 $\pm 1/8(3)$ UNLESS OTHERWISE SHOWN.

DESIGN CONDITIONS				
	SHELL		TUBES	
DESIGN PRESSURE	150 PSIG	1034 KP _a	150 PSIG	1034 KP _a
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 KP _a	300 PSIG	2068 KP _a
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-4-2P-1	REV.:
DATE: 12/01/94 BY: D.C.R.	TORONTO - CANADA 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		