



EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		(N1)		(N2)	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-183-4-1	44	1118	18 1/2	470	4	102	38	965	10	254	4	102
WS-184-4-1	56	1422	30 1/2	775	16	406	50	1270	10	254	4	102
WS-185-4-1	68	1727	42 1/2	1080	28	711	62	1575	10	254	4	102
WS-186-4-1	80	2032	54 1/2	1384	40	1016	74	1880	10	254	4	102
WS-187-4-1	92	2337	66 1/2	1689	52	1321	86	2184	10	254	4	102
WS-188-4-1	104	2642	78 1/2	1994	64	1626	98	2489	10	254	4	102
WS-189-4-1	116	2946	90 1/2	2299	76	1930	110	2794	10	254	4	102
WS-1810-4-1	128	3251	102 1/2	2604	88	2235	122	3099	10	254	4	102
WS-1811-4-1	140	3556	114 1/2	2908	100	2540	134	3404	10	254	4	102
WS-1812-4-1	152	3861	126 1/2	3213	112	2845	146	3708	10	254	4	102
WS-1813-4-1	164	4166	138 1/2	3518	124	3150	158	4013	10	254	4	102
WS-1814-4-1	176	4470	150 1/2	3823	136	3454	170	4318	10	254	4	102
WS-1815-4-1	188	4775	162 1/2	4128	148	3759	182	4623	10	254	4	102

NOZZLE SCHEDULE				
SERVICE	MARK	SHELL SIDE	MARK	TUBE SIDE
INLET	(N1)	AS PER TABLE	(N5)	4 (102) NPT
OUTLET	(N2)	AS PER TABLE	(N6)	4 (102) NPT
DRAIN	(N3)	3/4 (19) 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 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-18-4P-1	REV.			
DATE:	12/01/94	BY:	D.C.R.	TORONTO - CANADA	MONTREAL - CANADA	BUFFALO - N. Y.	COLCHESTER - U.K.	TEL: (416) 755-2291	TEL: (514) 421-2424	TEL: (716) 693-8813	TEL: (44) 120-657-9491