



EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		(N1)		(N2)	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-143-2-4	53 5/8	1362	22	559	12 1/2	318	38	965	6	152	2	51
WS-144-2-4	65 5/8	1667	34	864	24 1/2	622	50	1270	6	152	2	51
WS-145-2-4	77 5/8	1972	46	1168	36 1/2	927	62	1575	8	203	2 1/2	64
WS-146-2-4	89 5/8	2276	58	1473	48 1/2	1232	74	1880	8	203	2 1/2	64
WS-147-2-4	101 5/8	2581	70	1778	60 1/2	1537	86	2184	8	203	2 1/2	64
WS-148-2-4	113 5/8	2886	82	2083	72 1/2	1842	98	2489	8	203	2 1/2	64
WS-149-2-4	125 5/8	3191	94	2388	84 1/2	2146	110	2794	8	203	2 1/2	64
WS-1410-2-4	137 5/8	3496	106	2692	96 1/2	2451	122	3099	8	203	2 1/2	64
WS-1411-2-4	149 5/8	3800	118	2997	108 1/2	2756	134	3404	8	203	2 1/2	64
WS-1412-2-4	161 5/8	4105	130	3302	120 1/2	3061	146	3708	8	203	2 1/2	64
WS-1413-2-4	173 5/8	4410	142	3607	132 1/2	3366	158	4013	8	203	2 1/2	64
WS-1414-2-4	185 5/8	4715	154	3912	144 1/2	3670	170	4318	8	203	2 1/2	64
WS-1415-2-4	197 5/8	5020	166	4216	156 1/2	3975	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) FLG
OUTLET	(N2)	AS PER TABLE	(N6)	6 (152) FLG
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 KP ₀	150 PSIG	1034 KP ₀
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 KP ₀	225 PSIG	1551 KP ₀
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	REV.
DATE:	12 / 01 / 94	BY:	D.C.R.	TORONTO - CANADA	MONTREAL - CANADA	BUFFALO - N. Y.	COLCHESTER - U.K.	WS-14-2P-4		
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