



EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		N1		N2	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-163-4E4	70 5/8	1794	37 1/4	946	23	584	38	965	8	203	2 1/2	64
WS-164-4E4	82 5/8	2099	49 1/4	1251	35	889	50	1270	8	203	2 1/2	64
WS-165-4E4	94 5/8	2403	61 1/4	1556	47	1194	62	1575	8	203	2 1/2	64
WS-166-4E4	106 5/8	2708	73 1/4	1861	59	1499	74	1880	8	203	2 1/2	64
WS-167-4E4	118 5/8	3013	85 1/4	2165	71	1803	86	2184	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	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	
	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	WS-16-4P-E4- (8)	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