



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-163-4-1	43 1/2	1105	19 3/4	502	6	152	38	965	8	203	2 1/2	64
WS-164-4-1	55 1/2	1410	31 3/4	806	18	457	50	1270	8	203	2 1/2	64
WS-165-4-1	67 1/2	1715	43 3/4	1111	30	762	62	1575	8	203	2 1/2	64
WS-166-4-1	79 1/2	2019	55 3/4	1416	42	1067	74	1880	8	203	2 1/2	64
WS-167-4-1	91 1/2	2324	67 3/4	1721	54	1372	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) NPT
OUTLET	N2	AS PER TABLE	N6	4 (102) NPT
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 $\pm 1/8$ (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-16-4P-1-(8)	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		