



EXCHANGER SIZE	DIMENSIONS											
	A		B		C		D		N1		N2	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
WS-163-4-4	54 3/4	1391	19 3/4	502	6	152	38	965	8	203	2 1/2	64
WS-164-4-4	66 3/4	1695	31 3/4	806	18	457	50	1270	8	203	2 1/2	64
WS-165-4-4	78 3/4	2000	43 3/4	1111	30	762	62	1575	8	203	2 1/2	64
WS-166-4-4	90 3/4	2305	55 3/4	1416	42	1067	74	1880	8	203	2 1/2	64
WS-167-4-4	102 3/4	2610	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) 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:**

- SUPPORTS SUPPLIED ONLY IF SPECIFIED ON ORDER.
- NOZZLE SIZES SHOWN ARE RECOMMENDED FOR MAXIMUM EXCHANGER LIFE.
- FABRICATED TO ASME CODE SECTION VIII DIVISION 1 AND LATEST ADDENDA.
- DRAWING IS NOT TO SCALE.
- ALL DIM'S ±1/8 (3) UNLESS OTHERWISE SHOWN.

DESIGN CONDITIONS				
	SHELL		TUBES	
DESIGN PRESSURE	150 PSIG	1034 KPa	150 PSIG	1034 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	225 PSIG	1551 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-4-(8)	REV.	
DATE:	12 / 01 / 94	BY:	D.C.R.	TORONTO - CANADA	MONTREAL - CANADA	BUFFALO - N. Y.	COLCHESTER - U.K.		
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