

DONNEES D'ETUDE	DESIGN DATA	CIRCUITISE	COTE PROCEDE PROCESS SIDE	CIRCUITISE	COTE SERVICE SERVICE SIDE
FLUIDE VEHICULE	FLUID		Product 1+BE		Water
PRESSION DE SERVICE	WORKING PRESSURE		0.69	10	4.14
PRESSION D'ETUDE INTERNE	INTERNAL DESIGN PRESSURE MAWP (UG-21 UG-98)		10.4	151	10.4
PRESSION D'ETUDE EXTERNE	EXTERNAL DESIGN PRESSURE		1.03(FV)	15(FV)	1.03(FV)
PRESSION D'PRELUIVE	TEST PRESSURE (UG-99)		13.6	197	13.6
TEMPERATURE DE SERVICE	WORKING TEMPERATURE		77.9 > 65	172 > 149	30 > 67.8
TEMPERATURE D'ETUDE	DESIGN TEMPERATURE (UG-20)		120	248	120
TEMPERATURE D'ETUDE MINI	MDMT (UG-20)		0	32	0
NOMBRE DE PASSES	NUMBER OF PASSES		6		6
SURFACE HEAT	HEAT TRANSFER SURFACE			32.8 (353)	
POIDS A VIDE	WEIGHT EMPTY			2080 (4585)	
POIDS TEST	TEST WEIGHT			2317.2 (5108)	
VOLUME	CAPACITY			118	31.2
COEUR D'ECHANGE	HEAT TRANSFER PLATE PACK			SA240type316L	
CHARGES EXTERNES	EXTERNAL LOADS (UG-22)			Yes, Nozzle loads	
CODE DE CONSTRUCTION	CONSTRUCTION CODE			ASME Sect. VIII Div. 1 Ed.2019	
COEFF. DE SOUDURE	JOINT EFFICIENCY (UW-12)			0.7	
SERVICE DANGEREUX	LETHAL SERVICE (UW-2 UG-120d)			No	
SUREP. DE CORROSION	CORROSION ALLOWANCE			No	
TRAITEMENT THERMIQUE	HEAT TREATMENT - PWHT (UCS-56)			No	
CONTROLE RADIO	RADIOGRAPHY RT (UW-11)			No	
AUTRE CONTROLE	OTHER TEST			See Notes	
FINITION INTERNE	FINISH INTERNAL	REVETEMENT / LINING		SA240type316L	SA240type316L
FINITION EXTERNE	FINISH EXTERNAL	PEINTURE / PAINTING			
CONTROLE EXTERNE	EXTERNAL INSPECTION			ASME authorized inspector	
CAHIER DE SOUDAGE	WELDING PROGRAM			CDS-CP21-24562-01	
NOTE DE CALCUL	CALCULATION SHEET			NDC-CP21-24562-01	
L.O.F.C.	I.T.P.			ITP-CP21-24562-01	
RESILIENCE	IMPACT TESTED			No, exempted Acc. to UG20 (f), UCS66 and UHA-51	

TABLEAU DES TUBULURES / NOZZLES TABLE											
CUSTOMER ITEM	REP ITEM	NB QTY	DN	NPS	PIPE THK mm/in	LONGUEUR L SHOP LENGTH L mm/in	PN / GLASS	FACE DE JOINT / FLANGE FACING	NORME SPECIFICATION	SERVICE	
N1	A1	1	150	6	7.11	0.2799	256	10.0787	Cl.150	Product 1+BE Inlet	
N2	A2	1	150	6	7.11	0.2799	256	10.0787	Cl.150	Product 1+BE Outlet	
N3	B1	1	150	6	7.11	0.2799	256	10.0787	Cl.150	Water Inlet	
N4	B2	1	150	6	7.11	0.2799	256	10.0787	Cl.150	Water Outlet	

EFFORTS TUBULURES						NOZZLE LOADS	
Acc. to API 662 API Table 1							
(N)			(N.m)				
Fx	Fy	Fz	Mx	My	Mz		
776	776	776	750	750	750	DN150 Cl.150 > A1	
776	776	776	750	750	750	DN150 Cl.150 > A2	
776	776	776	750	750	750	DN150 Cl.150 > B1	
776	776	776	750	750	750	DN150 Cl.150 > B2	

ITEM NO.	QTY	PART NO	DESIGNATION	DESCRIPTION	MATERIAL	CERT.
1	1	DWG-CP21-24562-03	ASSEMBLAGE DU BLOC - CPK40 200 PLAQUES	BLOCK ASSEMBLY - CPK40 200 PLATES	-	
1.1	1	-	COEUR D'ECHANGE 200 PLAQUES (1)	HEAT TRANSFER PLATE PACK 200 PLATES (1)	SA240type316L	3.1
1.2	2	34502147-01	FOND USINE CP40 Ep.nominale=70mm, mini=68mm	MACHINED HEAD CP40 Th.nominal=2.7559in, mini=2.6712in	SA516gr60N	3.1
1.3	4	34502145-03	LONGERON 200 PLAQUES Ep.=70mm Ep.usi=59.5mm Lg.=1297mm	COLUMN 200 PLATES Th.=2.7559in Th.mach=2.3425in Lgth.=51.0630in	SA516gr60N	3.1
1.4	1	-	CHICANAGE EMBOUTI 6 PASSES (CIRCUIT A) (1)	STAMPED BAFFLE 6 PASSES (SIDE A) (1)	SA240type316L	
1.5	1	-	CHICANAGE EMBOUTI 6 PASSES (CIRCUIT B) (1)	STAMPED BAFFLE 6 PASSES (SIDE B) (1)	SA240type316L	
2	2	C2JAF	JOINT DE PANNEAU Ep.=2mm m=2 y=26 MPa CIRCUIT A	PANEL GASKET Th.=0.0787in m=2 y=26 MPa SIDE A	Graphite PSM	
3	2	C2JAF	JOINT DE PANNEAU Ep.=2mm m=2 y=26 MPa CIRCUIT B	PANEL GASKET Th.=0.0787in m=2 y=26 MPa SIDE B	Graphite PSM	
4	1	DWG-CP21-24562-04	PANNEAU ASSEMBLE Aa - CPK40 200 PLAQUES	PANEL ASSEMBLY Aa - CPK40 200 PLATES	-	
4.1	1	DWG-CP21-24562-01-41	PANNEAU USINE Ep.nominale=80mm mini=64mm	MACHINED PANEL Th.nominal=3.1496in mini=2.9172in	SA516gr60N	3.1
4.2	1	DWG-CP21-24562-01-51	RETVEMENT DE PANNEAU Ep.=3mm	PANEL LINING Th.=0.1181in	SA240type316L	3.1
4.3	2	34503718-07	BRIDE A COLLERETTE DN150 Cl150 SCH40S	WELDING NECK FLANGE NPS6" Cl150 SCH40S	SA182F316L	3.1
4.4	2	34503731-20	TUBE DN150 SCH40S Ep.=7.11mm Ep.mini=6.6mm Lg.=165mm	PIPE NPS 6" SCH40S Th.=0.2799in Th.mini=0.2598in Lg.=6.4960in	SA312TP316L	3.1
4.5	36	34501987-01	INSERT	THREAD INSERT	SA479type316L	
4.6	1	CCD01	PATTE DE TERRE (2)	EARTHING LUG (2)	SA240type304L	3.1
4.7	1	DWG-37522	\$PRP\$MODEL:{Description}L{O}	\$PRP\$MODEL:{Description}EN	SA516 gr60	3.1
5	30	3350023061	TIGE FILETEE M24x175mm ZINGUEE	THREAD ROD M24x175mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
6	2	3350023057	TIGE FILETEE M24x220mm ZINGUEE	THREAD ROD M24x220mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
7	1	DWG-CP21-24562-05	PANNEAU ASSEMBLE Ab - CPK40 200 PLAQUES	PANEL ASSEMBLY Ab - CPK40 200 PLATES	-	
7.1	1	DWG-CP21-24562-01-42	PANNEAU USINE Ep.nominale=70mm mini=54mm	MACHINED PANEL Th.nominal=2.7559in mini=2.126in	SA516gr60N	3.1
7.2	1	DWG-CP21-24562-01-52	RETVEMENT DE PANNEAU Ep.=3mm	PANEL LINING Th.=0.1181in	SA240type316L	3.1
7.3	44	34501987-01	INSERT	THREAD INSERT	SA479type316L	
8	30	3350023060	TIGE FILETEE M24x165mm ZINGUEE	THREAD ROD M24x165mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
9	2	3350011958	TIGE FILETEE M24x210mm ZINGUEE	THREAD ROD M24x210mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
10	1	DWG-CP21-24562-06	PANNEAU ASSEMBLE Ba - CPK40 200 PLAQUES	PANEL ASSEMBLY Ba - CPK40 200 PLATES	-	
10.1	1	DWG-CP21-24562-01-43	PANNEAU USINE Ep.nominale=80mm mini=64mm	MACHINED PANEL Th.nominal=3.1496in mini=2.9172in	SA516gr60N	3.1
10.2	1	DWG-CP21-24562-01-53	RETVEMENT DE PANNEAU Ep.=3mm	PANEL LINING Th.=0.1181in	SA240type316L	3.1
10.3	2	34503718-07	BRIDE A COLLERETTE DN150 Cl150 SCH40S	WELDING NECK FLANGE NPS6" Cl150 SCH40S	SA182F316L	3.1
10.4	2	34503731-20	TUBE DN150 SCH40S Ep.=7.11mm Ep.mini=6.6mm Lg.=165mm	PIPE NPS 6" SCH40S Th.=0.2799in Th.mini=0.2598in Lg.=6.4960in	SA312TP316L	3.1
10.5	36	34501987-01	INSERT	THREAD INSERT	SA479type316L	
11	30	3350023061	TIGE FILETEE M24x175mm ZINGUEE	THREAD ROD M24x175mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
12	2	3350023057	TIGE FILETEE M24x220mm ZINGUEE	THREAD ROD M24x220mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
13	1	DWG-CP21-24562-07	PANNEAU ASSEMBLE Bb - CPK40 200 PLAQUES	PANEL ASSEMBLY Bb - CPK40 200 PLATES	-	
13.1	1	DWG-CP21-24562-01-44	PANNEAU USINE Ep.nominale=70mm mini=54mm	MACHINED PANEL Th.nominal=2.7559in mini=2.126in	SA516gr60N	3.1
13.2	1	DWG-CP21-24562-01-54	RETVEMENT DE PANNEAU Ep.=3mm	PANEL LINING Th.=0.1181in	SA240type316L	3.1
13.3	44	34501987-01	INSERT	THREAD INSERT	SA479type316L	
14	30	3350023060	TIGE FILETEE M24x165mm ZINGUEE	THREAD ROD M24x165mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
15	2	3350011958	TIGE FILETEE M24x210mm ZINGUEE	THREAD ROD M24x210mm ZINC COATED ROOT AREA 317mm²	SA193grB7	3.1
16	128	3350012009	ECROU Hh, M24 ZINGUE	NUT Hh, M24 ZINC COATED	SA194gr7	3.1
17	128	3350012015	RONDELLE M24 N ZINGUEE	WASHER M24 N ZINC COATED	STEEL C45	
18	4	C2221	VIS H M24x40mm ZINGUEE (2)	SCREW H M24x40mm ZINC COATED (2)	Class 8.8	
19	2	DWG-36160	CORNIERE PORTE ETIQUETTE (2)	LABEL BEARER (2)	S235 JR	
20	1	34502151-01	SUPPORT VERTICAL CP40	VERTICAL FEET CP40	S235JR	
21	1	DWG-CP21-24562-02	PLAQUE DE FIRME ALFA LAVAL (2)	ALFA LAVAL NAME PLATE (2)	A240type304	
22	1	DWG-CP21-24562-02	PLAQUE DE FIRME ASME U (2)	ASME U NAME PLATE (2)	A240type304	
23	5	DWG-CP21-24562-02	PLAQUE D'IDENTIFICATION (2)	IDENTIFICATION PLATE (2)	A240type304	
24	2	CCA02	ANNEAU ARTICULE M8 (2)	SWIVEL RING M8 (2)	CMU 0,4t	
25	2	C1LEVMD24-01	ANNEAU ARTICULE M24 (2)	SWIVEL RING M24 (2)	CMU 4t	

PROJECT - WORPAR
ITEM NBR - 681B2.1
TYPE - ASSY
eB NBR - 100207382.003
DATE - 31.01.2022

(1) NON CODE PART
(2) NON PRESSURE COMPONENT

COMPABLOC welded plate type heat exchanger composed of a non Code pack of welded square exchange plates enclosed in a bolted Code symbol stamped rectangular shell with encased carbon steel square flat heads.
Les cotes sont en millimètres et en pouces entre "[]" pour information.
Dimensions are in millimeters and in inches into "[]" for information only.
Le(s) trou(s) M6 pour la protection argon doit (doivent) être en position basse.
M6 Hole(s) for gas backing protection must be at the bottom of the pipe.

Boulonnerie de serrage panneaux graissée avec Molydal Graisse Thermolub SP (R) à l'exception de la boulonnerie revêtue PTFE.
Tightening bolts of panels greased with Molydal Graisse Thermolub SP (R) except of bolting is PTFE coated.

NOTES: 1. Position of nozzles : ±5mm [±0.197in] 2. Anchoring : ±5mm [±0.197in] 100% Dye penetrant test: on plate pack, on linings, on pipe/panel welds and on pipe/flange welds and on insert welds. PMI control: 100% on plate pack, 100% on linings, on linings welds and 10% on insert welds				QCM. Review:		AI. Review:		Approved by D.E.:												
03		26/01/2022		MVD		TSZ		SBU		Panel gasket & ID Plate updated : AS Built : Adjustment of Nozzles A1 & B1										
02		01/12/2021		AML		TSZ		SBU		Nozzle length and th. (in) updated										
01		29/10/2021		LRT		TSZ		SBU		Customer and Design Engineer comments Updated										
00		20/07/2021		NRL		TSZ		SBU		First Issue										
INDICE REVIEW		DATE		NOM AUTHOR		VERIFIE CHECKED		APPROUVE APPROVED		W.E. APPROVAL		OBJET DE LA REVISION REVIEW SUBJECT								
SOUS ASSEMBLAGE SUB ASSEMBLY (for internal use only)													CLIENT		CUSTOMER					
													DESMET							
													Cde CLIENT		CUSTOMER ORDER					
													Cde ALFA LAVAL		CP2021-24562 ALFA LAVAL ORDER					
DWG-CP21-24562-02 DWG-CP21-24562-03 (630kg) DWG-CP21-24562-04 (356kg) DWG-CP21-24562-05 (299kg) DWG-CP21-24562-06 (353kg) DWG-CP21-24562-07 (299kg)													NO SERIE		SERIAL NO		ECHELLE		A1	
													CP40-2824		1:8		1		2	
													REPERE		ITEM or TAG		DWG-CP21-24562-01		03	
													681B2.1 / 19-X-753B							

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19-X-753B
OIL/WATER HEAT EXCHANGER