

BASIC PIECE LIST

Group No.	Serial No. of PC	Drawing No.	No. of sheets	Drawing	Pcs of order	Weight in kg	Note	Number of items	
✓	00	009-2514.027	ab	6 Condenser 111CA, CB, CC	3	27009	assembly	76	
✓	01	309-2162.008	1	Shell cover	3			12	
✓	02	209-2115.021	a	2 Channel	3			16	
✓	03	109-2105.008	a	3 Tube bundle	3			32	
✓	04	209-1902.094	a	1 Support type I, II	6		1x type I 1x " II	6	
✗	05	K09-320.031	a	1 Spare parts	1	11, 30		9	
		409-450.069	a	41 Strength design					
				MER's Serial No 19771 + 19773					
				No of recording book	25-14-4375				
				Technical description:					
				The condenser is a horizontal, cylindrical exchanger with floating head. Apparatus shell, dia. 1000 mm, is of plate 14 mm, quality 11416.1 and is, on the side of floating head, closed by a bottom of dia. 1200 mm 14 mm thick. On the other end is a di-channeling chamber with baffles for 8 runs in tube space. The space in shell is divided by the central cross, not truncated baffle in two branches of one run. Every branch of the run in shell has 7 segment baffles. The baffle in floating tube-sheet is a bearing one with cuts-out for medium passage. The tube bundle formed by 584 tubes 25x2.5-4000 mm of material ASTM B 111 - Admiralty typ B (with arsene) expanded into tube sheets in the whole thickness. Material of tube-sheets is brass CSN 423237.01. Material of baffle system of tube bundle is Monel. The floating head is of a new construction.					
				The tube bundle in shell is lead by two sliding bars Ø 20 mm. The exchanger is equipped by nozzles N.D.6", N.P.150 LB with welded on pieces for sampling the temperature and pressures. Further on welded-on pieces for venting and drain and supports.					
Drawn by		Ing. Lick		Customer					
Checked by		Palkraben		Basrah-IRAQ					
Approved by									
Date		20.1.71							
Order		Condenser 111 CA, CB, CC		Number of design		Sign			
0-3401				ZK		25 400 20			
				Department		Order No.			
				69		25 400 20			
						Sheet/No. of sheets			
						1/1			

PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.

X		Number of sheets listed on the assembly drawing refers to parts list written in the czech language.			
X					
0					
X					
①	309-2162.00B	Shell cover.	piece-list 2 pages		
		subassembly dwg	490,2		1x
②	209-2115.021/a	Channel	piece-list 2 pages		
		subassembly dwg	616,2		1x
③	109-2105.00B/a	Tube bundle	piece-list 3 pages		
		subassembly dwg	4481,-		1x
④	209-1902.094/a	Support saddle - alter. I, II	piece-list 1 pages	alter. I - 1x alter. II - 1x	
		subassembly dwg	281,6		2x
X					
1		Shell $\phi 1028 \times 1560$	A		
		11416.1	p14-1588 $\times 3214$	556,-	1
2		Shell $\phi 1028 \times 1968$	A		
		11416.1	p14-1996 $\times 3214$	702,-	1
3	409-0542.141	Main flange	A		
		11416.1	forging $\phi 1410^{+17} / \phi 940^{+17} \times 200^{+15}$	449,-	1
4	409-0542.140	Shell and channel flange with circular recess	A		
		11416.1	forging $\phi 1220^{+15} / \phi 950^{+15} \times 160^{+13}$	152,-	1
5					
X					

Drawn by Ing. Lick

Checked by J. Kráček

Approved by Manšík

Date 3.1.71

Type

Change

Date

Signature

 c
b
a


Description Unit 3401

 Condenser
M CA, CB, CC

Previous parts list number

Total weight of assembly

9003,- kg

K

Department 09

Parts list number

2514.027/a/b/Basrah


Sheet 1 of 6 sheets

PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note			
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.		
6	309-2130.048/a	Floating head cover					
			weld. subassembly dwg	-	1x		
7	409-2066.032	Cover flange		A			
		11416.1	forging $\phi 1140^{+15}/\phi 910^{+15} \times 110^{+15}$	132,-	1		
8	409-0721.081	Floating head bottom		A			
		11416.1	p16 - $\phi 1200$	105,-	1		
9	509-0909.072	Lifting lug - alter. 2					
		11416.1	p25 - 68x100	0,9	1		
10	509-0908.1072/a	Pass partition		A			
		11416.1	p12 - 216x964	13,4	1		
11	509-0908.1199	Pass partition		A			
		11416.1	p12 - 196x890	22,4	2		
X		Welding material		A			
		E44.83	$\phi 3,15; \phi 4; \phi 5; \phi 6,3$	9,-	-		
X							
12	409-2066.033	Floating head ring					
			weld. subassembly dwg	-	1x		
13	409-2066.033/1	Ring		A			
		11416.1	p36 - 65x3500	24,55	1		
14	409-2066.033/2	Spacer					
		11373.0	flat 25x6 - 31	1,105	3		
X		Welding material		A			
		E44.83	$\phi 4; \phi 5$	0,03	-		
X							
15	309-2073.008/a	Cover					
			weld. subassembly dwg.	-	1x		
16	309-2073.008/1/a	Cover		A			
		11474.1	p80-1208x1208	557,5	1		
Drawn by Ing. Lick		Checked by T. Krabek		Change	Date	Signature	c
Approved by Menšik		Date 3.1.71					
Type		Description		Previous parts list number		Total weight of assembly	
		Condenser 111 CA, CB, CC		K 09 - 2514.027/a,b/Basrah		Sheet 2 of 6 sheets	

PARTS LIST


BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.

17	509-0923.290	Lifting lug			
		11 416.1	rod 20 dia - 200	0,49	1
X		Welding material			
		E44. 83	φ315; φ4	0,01	-
X					
18					
19	412 9. 955 360	Stud bolt M24 x 220		A	
	CSN 131520.3	15 236.7	rod 25 dia - 229	45,2	84
20	512 9. 955 983	Nut		A	
	CSN 131530.2	15 233.7	hex. 36 - 23	45,7	328
21	412 9. 955 357	Stud bolt M24 x 190		A	
	CSN 131520.3	15 236.7	rod 25 - 199	19,1	40
22	509-0028.218	Stud bolt M24 x 235		A	
	CSN 131520.3	15 236.7	rod 25 - 244	22,8	40
23	409-0822.084	M.J.A Gasket			
		MS ADMIRALTY + Asbestos	3 - φ1250/φ1210	0,88	1
24	409-0822.086/a	M.J.A Gasket with partition web			
		MS ADMIRALTY + Asbestos	3 - φ 990	0,66	1
25	409-0822.085	M.J.A Gasket			
		MS ADMIRALTY + Asbestos	3 - φ 1070/φ 1030	0,67	1
26	409-0822.087/a	M.J.A Gasket with partition web			
		Fet asbestos	3 - φ 1070	1,6	2
27					
28					
29	409-2064.077/a	Two-part ring		A	
		11 416.1	p 46- 80 x 3400	51,3	1

Drawn by Ing. Lick	Checked by Půlkrábek	Change	Date	Signature	c
Approved by Manšik	Date 3. 1. 71				
Type					a
	Description Condenser 111 CA, CB, CC	Previous parts list number		Total weight of assembly	
		K	09	Parts list number 2514.027/a,b/Basrah	Sheet 3 of 6 sheets

PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.

X					
30		Test plate	A		
		11 416.1	p46-100x900	(33,12)	1
X		Tension test specimen			
				-	1x
X		Bend test specimen			
				-	1x
X		Impact test specimen			
				-	2x
31	509-0918.1012	Nozzle neck	A		
		12021.1	pipe 168x14-112	5,6	1
32	309-0631.012	Elbow	A		
		11416.1	p16-350x450/2kg	10,-	1
33	409-0508.030/a	Nozzle flange 6" 150 LB (d=140mm)	A	TP 409-196.000B	
	NKS 13230-70	11416.0	billet 250x250-120	39,6	3
34	509-0918.866	Nozzle neck	A		
		12021.1	pipe 168x14-192	19,1	2
35	409-0794.177	Connection 3/4" - 14 NPT (L=75)	A		
		11416.1	rod 50 dia - 96	2,64	3
36	409-0794.176	Connection 3/4" - 14 NPT (L=100)	A		
		11416.1	rod 50 dia - 121	3,36	3
37	409-0879.001	Plug 3/4" - 14 NPT	A		
		11416.1	rod 30 dia - 78	1,98	6
38		Plug thread painted before assembly for sealing.			
39					
40					

Drawn by Ing. Lick

Checked by Pulkrábek

Approved by Menšík

Date 3.1.71

Type

Change

Date

Signature

c

b

a



Description

Condenser
111 CA, CB, CCPrevious parts
list numberTotal weight
of assembly

K

Department

09

Parts list number

-2514.027/a,b/Basrah

Sheet

4 of 6
sheets

PARTS LIST


BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.

41	CSN 021391	Anchor bolt M24 x 250	43	3,5	4
42	CSN 021401.10	Nut M24	5D	0,83	8
43	CSN 021701.10	Washer 25	11 423	0,12	4
44					
45	CSN 021121.11	Starting screw M16 x 80	5D	0,42	3
X		Welding material			
		VUS 18/8/2s	φ3,15	0,05	5
X		Welding material		A	
		E44.83	φ3,15; φ4; φ5; φ6,3	1,4	-
X		Filler wire for S.A.W		A	
		40	φ4	8,73	-
X		Flux			
		VUS 34 Mn		(12,3)	-
X					
46	309-268, 0193	Insulation clip			
		11 373.0	flat 25x3-40	2,19	73
47	409-0900.1712	Bracket			
		11 373.0	p6-415x195	0,4	1
48	309-0182.005/a	Name plate 180x210			
	NKS 02002-70	17 246.1	p6-180x210	1,9	1
49					
50		Run-on plate			
		105"	p14-100x100	(8,96)	8

Drawn by Ing. Lick	Checked by P. Kráček	Change	Date	Signature	c b a
Approved by Menšík	Date 3.1.71				
Type					
	Description Condenser 11 CA, CB, CC	Previous parts list number	Total weight of assembly		
		K	Department 09	Parts list number 2514.027/a, b / Basrah	Sheet 5 of 6 sheets

PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.

51	ČSN 029021	Gasket it-01	1,5-41250/41210	for pressure test (0,2)	1
52					
53					
54					
55					
X		Insulated surfaces 0-2004		Brushing-blasting before paint ~20 m ²	1x
X		Non-insulated surfaces 0-2004		Sand-blasting before paint ~10 m ²	1x
X		Guide coat S-2012		~10 m ²	1x
X					
X					
56	NKS 65 430	Levelling strip "0"	p2-80x340	Supply to assembly 104	24
57	NKS 65 430	Levelling strip "0"	p5-80x340	Supply to assembly 261	24
58	NKS 65 430	Levelling strip "0"	p8-80x340	Supply to assembly 41,78	24
59	NKS 65 430	Levelling strip "0"	p10-80x340	Supply to assembly 52,2	24
X		The End!			

Drawn by Ing. Lick
Approved by Menšík
Type

Checked by Tůlkrábek
Date 3.1.71

Charge _____ Date _____ Signature _____



Description
Condenser
111 CA, CB, CC

Previous parts list number
K 09

Department 09

Parts list number 2514.027/a, b / Basrah

Total weight of assembly 9 003, - kg

Sheet 6 of 6 sheets

PARTS LIST


BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Qty per equip.

0	209-2115.021/a	Channel			
			weld. sub-assembly dwg.		1x
X					
1	409-0542.140	Shell and channel flange with circular recess A			
		11416.1	forging $\phi 1220^{+15}_{-14}$ $950^{+15}_{-14} \times 160^{+13}_{-12}$ 304-		2
2		Shell		A	
		11416.1	p14-346x3214	113	1
3	509-0918.865	Nozzle neck		A	
		12 021.1	pipe 168x10-238	15,58	2
4	409-0508.031	Nozzle flang 1s 6" 150 LB		A NKS 13230-Sy	
	NKS 13230.70	11416.1	forging	24,1	2
5	409-0794.184	Instrument connection		A	
		11416.1	rod 50 dia-67	2,4	4
6	409-0879.001	Plug $3/4"$ -14 NPT		A	
		11416.1	rod 30 dia-78	1,32	4
7					
8	512 9.514 662	Connection M27x2-90°/75		A	
	NKS 13921.0	11416.1	rod 45 dia-78	1,5	2
9	509-0878.022	Plug M 27x2		A	
		17246.1	hex 36-78	0,9	2
10		911 752-Ring-Joint gasket 2x 35 S-W			
	NKS 13923-S	42 4005.11		0,004	2
11	509-0900.1794/a	Gas partition		A	
		11416.1	p12-492x552	25,5	1
12		Gas partition		A	
		11416.1	p12-552x998	51,8	1
13	509-0900.1997	Gas partition		A	
		11416.1	p12-466x552	48,2	2

Drawn by Kozlovā	Checked by Gulkrābek	Change	Date	Signature	c b a
Approved by Menšik	Date 20.1.1971				
Type	Description Unit 3401	Previous parts list number	Total weight of assembly	616,2 kg	
	Channel	K	Department	Parts list number	Sheet 1 of 2 sheets
	Part. 111 CA-CC		09	2115.021/a / Basrah	


PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.
14					
15					
X					
X		Channel stress relieving.			
X		Welding material		A	
		Ao	φ5	13	-
X		Flux		TDP ČSN 055201	
		VUS 34 Min		(13,7)	-
X		Welding material		A	
		E44.83	φ3,15; φ4; φ5; φ6,3	15,-	-
X					
X					
X					
X					
X					
X					
X					
X					
X					
X		The End!			

Drawn by Kozlova	Checked by Puškrábek	Change	Date	Signature	c b a
Approved by Menšík	Date 20.7. 1971				
Type	Description	Previous parts list number	Total weight of assembly		
	Channel	K 09	2115.021/a	Basrah	616,2 kg
		Department	Parts list number	Sheet	of 2 sheets
				2	

PARTS LIST

BASRAH REFINERY


Order number

25 40020

Item number	Drawing number	Description		Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.

X		Number of sheets on the assembly drawing refers to parts list written in the czech language.			
X					
0	109-2105.008/a	Tube bundle			
			sub-assembly dwg	-	1x
X					
1	209-2025.049/a	Stationary tubesheet		A	
		423237.01	p80 - 1120x1120	292,-	1
2	209-2025.050/a	Floating tubesheet		A	
		423237.01	p80 - 1040x1040	242,5	1
3		Bundle tube		A	
		ASTM 3111 admiralty - type 3	pipe 25x2,5-4000	3509,-	584,-
4					
5	309-2051.082	Baffle		A	
		423431.10	p6 - 736x1020	262,5	14
6	309-2059.049	Middle baffle		A	
		423431.10	p6 - 1020x1020	25,-	1
7	309-2053.120/a	Support plate		A	
		423431.10	p8 - 1020x1020	18,-	1
8	509-2067.105	Tie rod		A	
		423431.11	rod 16 dia - 3795	54,-	8
9		Spacer		A	
		ASTM 3111 ADMIRALTY - TYPE B	pipe 25x2,5 - 670	2,01	2
10		Spacer		A	
		ASTM 3111 ADMIRALTY - TYPE B	pipe 25x2,5 - 470	425	6
11		Spacer		A	
		ASTM 3111 ADMIRALTY - TYPE B	pipe 25x2,5 - 394	14,8	14

Drawn by Ing. Lick	Checked by P. Kráček	Change	Date	Signature	c
Approved by Menšík	Date 7.1.71				
Type					a


	Description Tube bundle	Previous parts list number	Total weight of assembly	4481,-
		Department 09 Parts list number 2105.008/a / Basrah	Sheet 1 of 3 sheets	

PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note			
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.		
12		Spacer		A			
		ASTM 3111 ADMIRALTY-TYPE 3	pipe 25x25 - 6S9	1,98	2		
13		Spacer		A			
		ASTM 3111 ADMIRALTY-TYPE 3	pipe 25x25 - 194	17,48	60		
14		Spacer		A			
		ASTM 3111 ADMIRALTY-TYPE 3	pipe 25x25 - 459	4,15	6		
15							
16	509-0040.131	Nut		A			
		423431.11	rod 35 dia - 16	0,56	16		
17							
18	509-0923.342/a	Bundle runner - alter. I		A			
		423431.11	rod 20 dia - 3176	9,45	1		
19	509-0923.342/a	Bundle runner - alter. I		A			
		423431.11	rod 20 dia - 3376	8,9	1		
20							
21	409-0904.451/a	Impingement plate		A			
		423431.10	p 6 - 240x240	5,9	2		
22		Tie plate		A			
		423431.10	p 3 - 10x240	0,253	4		
23	509-0923.438	Yoke		A			
		423431.10	rod 6 dia - 90	0,172	8		
24	509-0040.132	Nut M6		A			
		423431.11	rod 12 dia - 8	0,048	16		
25							
26	509-0878.029	Plug					
		17246.1	rod 40 dia - 53	0,4	2		
Drawn by Ing. Lick		Checked by P. Ilkrahbek		Change	Date	Signature	c
Approved by Menšik		Date 7.1.71					
Type							
	Description		Previous parts list number		Total weight of assembly		Sheet
	Tube bundle		K		09 - 2105.008/a / Basrah		



Description

Tube bundle

Previous parts list number

K

Department

09

Parts list number


2105.008/a / Basrah

Total weight of assembly

Sheet

2 of 3 sheets

25 40020

Drawn by Ing. Lick	Checked by Polkrabek	Change	Date	Signature	c
Approved by Menšik	Date 2.1.77				b
Type					a
	Description Tube bundle	Previous parts list number		Total weight of assembly	4481 g
		R	Department 09	Parts list number 2105.008/a / 3asrah	Sheet 3 of 3 sheets

PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description		Note			
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.		
0	209-1902.094	Support saddle - alter. I, I					
			assembly dwg	-	1x		
X							
1	209-1902.094/1	Base plate		for alter. I			
		11373.1	p14-240 x 900	24.1	1		
2	209-1902.094/2	Base plate		for alter. I			
		11373.1	p14-240 x 900	24.1	1		
3	209-1902.094/3	Transverse Support Plate					
		11373.1	p14-550 x 850	42.84	1		
4	209-1902.094/4	Saddle band					
		11416.1	p14-300 x 1902	36.62	1		
5	209-1902.094/5	Rib					
		11373.1	p14-220 x 573	28.2	2		
6	209-1902.094/6	Rib					
		11373.1	p12-196 x 356	6.7	1		
7							
X		Welding material					
		E44.72	φ4	2.28	-		
X							
X							
X							
X							
X							
X		The End!					
Drawn by Horāk		Checked by ʔūlkrābak		Change	Date	Signature	c
Approved by Menšik		Date 8.8. 1970					
Type		Description		Previous parts list number		Total weight of assembly	
		Support saddle alter. I, I		140.8 kg			
				Department 09		Parts list number 1902.094/3asrah	
				Sheet 1 of 1 sheets			



PARTS LIST

BASRAH REFINERY

Order number

25 40020

Item number	Drawing number	Description			Note	
	Number of standard	Mark of material	Base material	Net wt. per equip.	Q'ty per equip.	

1	409-0822.084	M.J.A. Gasket				
		MS admiralty + asbestos	3-φ1250/φ1210	2,64	3	
2	409-0822.086/a	M.J.A. Gasket with partition web				
		MS admiralty + asbestos	3-φ990	1,98	3	
3	409-0822.085	M.J.A. Gasket				
		MS admiralty + asbestos	3-φ1070/φ1030	2,01	3	
4	409-0822.087/a	M.J.A. Gasket with partition web				
		Fe + asbestos	3-φ1070	4,8	6	
5		Gasket				
	CSN 029021	IT-02	1-φ40/φ31	0,0006	6	
6		911 752- Ring-Joint gasket 2Bx35 S-vv				
	NKS 13923-S	42 4005-11		0,048	12	
7						
8						
9						
X						
X						
X						
X						
X						
X						
X		The End!				

Drawn by Horák
 Checked by Půlkrábek
 Approved by Menšík
 Date 30.8.70
 Type

Change

Date

Signature

c

b

a

Description
 Spare parts

Previous parts list number

Total weight of assembly

11,515 kg

K

Department 09

Parts list number 320,0314/a Basrah

Sheet 1 of 1 sheets

