# BASIC PIECE LIST

| Group No. | Serial No. of pc | Drawing No. | No. of Sheets | Drawing | Pcs of order | Weight in Kg | Note | Number of item |
|---|---|---|---|---|---|---|---|---|
| 00 | 009-2514.067/ a | 10 | Condenser 611 CA,CB, CC | 3x | 27009,- | assembly | | 76 |
| 05 | K09-320.1012 | 1 | Spare parts | 2x | 23,03 | free list | | 6 |
| | | | | | 7032,0 | | | 148 |
| | 409-450 | 42 | Strength design | | | | | |

Factory No.: 23721 + 23723

A) Technical description:

The condenser is a horizontal cylindrical exchanger with floating head. Condenser shell Ø 1000 mm (inner one) is of plate 14 mm, quality 11416.1 and, on the side of floating head, is closed by a bottom Ø1200 mm, 14 mm thick; on the other side there is a separating chamber with baffles for 3 passages in tube space. Shell space is divided by mean cross non-cut baffle on 2 branches of one passage. Every passage branch in shell has 7 segment baffles.

Baffle in floating tube sheet is a bearing one with cut-outs for medium passage. Tube bundle is formed of 584 tubes 25 x 2,5 - 4000 of ASTM B 111 - Admiralty type B(with arsene) expanded into tube sheets in total thickness. Tube sheet of brass CSN 423237.01. Baffle system of tube bundle of monel. Floating head is a new conetuction. Tube bundle in shell is guided by two slide rods Ø 20 mm.
Condenser provided by nozzles N.D. 6", N.P. 150 LL with welded on pieces for temperature samples and pressures; further welded on pieces for venting and drain and supports.

This order resembles to order 25 4002.

B) Manufacture: Condenser manufactured in compliance with standard ČSN 69 0010 and accord.to supplementing tech.cond. 409-196,0010. Special care is to be given to manufr. and assembly of floating heads and to shell from viewpoint of precised

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| Issued by Lancev | Customer Technoexport Praha II Arch | Change See 6 book 6 | Date | Signature |
| Engineer | | | | |
| Head of dept. | | | | |
| Date June 10,1976 | | | | |

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| Order [illegible] 611 CA,CB,CC | Number of design 2K | Dept 29 | Order No. 25 [illegible] | Sign | Sheet/No of sheets 1 / 4 |

# BASIC PIECE LIST

| Group No. | Serial No. of Pt. | Drawing No. | No. of Sheets | Drawing | Pcs of order | Weight in Kg | Note | Numb of the |
|---|---|---|---|---|---|---|---|---|

requirements of purchaser f r manfr. toleran-
ces.

C) Tests and acceptance:

Condenser shall be tested in compliance with standard CSN 690010, TP 409-196,0013 and accord. to requirements contained in manual C-1. Condenser shall be accepted by INSPECTA inspector. Matter of acceptance is also a lot of parts before mounting e.g. cover with rings of floating head, tube bundles and so on (see manual). Pressure test accord.to dwg. Kellog No. 398 D-3. Testing process in piece list. Test fixtures for pressure tests are part of machinery delivery. Because applicable even for exchangers of further order Nos., they must be carefully bedded incl. of accessories and delivered accord. to sale dept. rules after the last exchangers were tested.
Strict control of shells as to manfr.tolerances of baffles and expanding of tubes is necessary as well as that of inv.parts of float.head where non-keeping of tolerances may cause sealing troubles. The same as to bevel preparation and welding of nozzles. Welds of floating head cover all chamber welds 2, after thermal treatment, shall be controlled on cracks by magnetic test or by Indical - that s why the surface smooth. Check as to assembly of operation sealing.

D) Documentation: Layouts as part of documentation must be in English.
Documentation accord.to contract carried out by sale dept. of chemistry group.

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| Issued by | Customer | Change | Date | Signature | d | | |
| Engineer | Technoexport Praha | | | | c | | |
| Head of dept. | Basrah II Iraq | | | | b | | |
| Date | | | | | a | | |
| Order | Number of design | Sign | | | | | |
| CONDENSER 611 CA.CB. CC | 7K | Dept 09 | Order No. 45 2601 2 | Sheet/No of sheets 2 / 4 | | | |

# BASIC PIECE LIST

| Group No. | Serial No. of Pc | Drawing No | No. of Sheets | Drawing | Pcs of order | Weight in Kg | Note | Numb of ite |
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| | | | | | | | | |

E) Coating:

Condenser part

insulated parts - shell and bottom of float.head on brushed surface 1x U-2004

non-insulated parts - chamber 2 with support on jetted surf. 1x U-2888, 1x U-2000 and 1x U-2050

Flange paint up to sealing surface.

Coat and surf.treatment incl.of process when coating layers accord.to spec. 12.

Condenser marked by white fast:

a) 80501-611 CA (CE,CC)/80501-103-018

b) condenser mass

c) centroid (tested by suspension on crane)

F) Transport: By railway - seaworthy packing. Forcing-off and suspens. bolts screwed in in condenser. Non-painted areas conserved by Rexax 40.

Flanges blinded by wooden covers, screwed on by 4 bolts at least and packed by per fine paper. Spare parts in cases.

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| Engineer | Technoexport Prg | | | Date | c |
| Head of dept. | Basrah II Iraq | | | Signature | b |
| Date | | | | | a |
| Order | CONDENSER | Number of design | Sign | | |
| | [illegible] CA,CB,CC | ZK | Dept 09 | Order No. 25 96012 | Sheet/No of sheets 3/4 |

# BASIC PIECE LIST

| Group No. | Serial No. of Pc | Drawing No | No. of Sheets | Drawing | No. of order | Weight in Kg | Note | Number of items |
|---|---|---|---|---|---|---|---|---|

( nuclear marking for transport accord.to
civil dept. dispositions.

G) Assembly documentation:
Dwg. 109-2514.067
109-2105.038/a
Complete piece list

H) Used dispositions: 1) Design dwg. 9512-5901-B-C-04-037
2) Strength design ASME CODE - NRS65003-68.

When constructing, common elements were used.
Neither patents nor improvements applied.

Notes: Testing fixture for pressure test issued in order 25 36018.

Mfr. technology easily governed as common -
no special measurements necessary.

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| Engineer | Technoexport Praha | | | | c |
| Head of dept. | Basrah II Irq | | | | b |
| Date | | | | | a |
| | Order | Number of design | Sign | | |
| | | 24 | Dept | Order No. 25 36018 | Sheet/No of sheets |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
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| Position No. | DRAWING No. / Standard No. / Weight of 1m (m²) | DESCRIPTION / Material / Basic mater. dimens. - Model No. / Material No. / s.t.u. | NOTE / Pcs on order / Quality in s.t.u. | Net weight for 1 des. / Pcs for 1 des. |
|---|---|---|---|---|
| 0 | 309-2162.008 | Bottom with flange<br>sub-assembly dwg. | | 1x |
| X | | | | |
| 1 | 509-0724.420<br>CSN 425816<br>7 | Pressure bottom<br>11416.1 \| Ø 1200x14 \| c.v. 40 | | 195,-<br>1 |
| 2 | <br>2 | Shell Ø 1200x160 unfolded 3737 max.<br>11416.1 \| p.14 \| 188x3765<br>16 | | 60,72<br>1 |
| 3 | 409-0542.129<br><br>7 | Flange with circular recess<br>11416.1 ring Ø 1410/Ø 1110x175 | | 204,-<br>1 |
| 4 | 512 9 514 661<br><br>2 | Welded on piece M 27x2 - 90°150<br>11416.1 \| Ø 45 \| 53<br>44 | | 1,05<br>2 |
| 5 | 509-0878.027<br><br>2 | Plug M 27x2<br>17246.4 hex. 36 \| 78 | | 0,9<br>2 |
| 6 | <br>NKS L3923-S 42 4005.11<br>2 | 911 752 - sealing 28x35 S - Vv | | 0,004<br>2 |
| 7 | 509-0923.290<br><br>6 | Suspension eye<br>11416.1 \| Ø 20 \| 200 | | 0,98<br>2 |
| 8 | <br>CSN 021121.11 5 D<br>2 | Forcing off bolt M 16x100 | | 0,501<br>3 |
| 9 | | | | |

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| Issued by Horák | Analyzer | Change | | Date | Signature | d | |
| Tested by Pukrábek | Production | | | | | c | |
| Approved by Menšík | Date | | | | | b | |
| Type | | | | | | a | |
| Order Bottom with flange<br>6 \| c | | Previous piece list | | Total weight of assembly | | | |
| | | K | Dept. 09 | Piece list No. 2162.008 | | Sheet/No. of sheets 1 / 2 | |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly g |
|---|---|---|---|---|
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| DRAWING No. | | DESCRIPTION | | NOTE | |
|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | Pcs on order | Net weight for 1 des. |
| | Weight of 1m ($m^2$) | Material No. | S.t.u. | Quality in s.t.u. | Pcs for 1 des. |
| | | Wire for automatic | | | |
| 10 | CSN 055376 | Ao \| Ø 4 \| | | | 8,- |
| | 2 | | | | - |
| | | Flux | | | |
| 11 | CSN 055712 | VÚS 34 Mn | | | 12,- |
| | 2 | | | | - |
| | | Weld.material | | P 1831 | |
| 12 | CSN 420160.1 | E 44 8 3 0: 3,1 Ø 4 Ø 5 | | | 1,- |
| | 2 | | | | - |
| X | | | | | |
| | | | | | |
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| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
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| DRAWING No. | | DESCRIPTION | | | | NOTE | | |
|---|---|---|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | | | Pcs on order | | Net weight for 1 des. |
| | Weight of 1m($m^2$) | | Material No. | s.t.u. | | Quality in s.t.u. | | Pcs for 1 des. |
| 109-2105.008/a | | Tube bundle | | | | | | |
| 0 | | sub-assembly dwg. | | | | | | - |
| | | | | | | | | 1 |
| | | | | | | | | |
| X | | | | | | | | |
| | | | | | | | | |
| 209-2025.049/a | | Stationary tube sheet | | | | | | |
| 1 | | 423237.01 | p.80 | | 1120x1120 | | | 297,- |
| | 2 | | 67 | | | | | 1 |
| 2 09 2025.050/a | | Floating tube sheet | | | | | | |
| 2 | | 423237.01 | p.80 | | 1040x1040 | | | 242,5 |
| | 2 | | 67 | | | | | 1 |
| Note: | | Rolled products for tube sheets fig. 1 and 2 shall be tested see 4/4 of this List | | | | | | |
| X | | | | | | | | |
| | | Bundle tube | | | | | | |
| 3 | | ASTM B 111 | | | | | | 3.509,- |
| | 2 | Admiralty-type B | tu. | 25x2,5 | 4000 | | | 584 |
| | | | | | | | | |
| 4 | | | | | | | | |
| 309-2051.082 | | Baffle | | | A=CH.R, | | | |
| 5 | | 423431.1 | p.6 | | 736x1020 | | | 262,5 |
| | 2 | | 21 | | | | | 14 |
| 309-2059.049 | | Full middle baffle | | | A=CH.R. | | | |
| 6 | | 423431.1/ | p.6 | | 736x1020 | | | 25,- |
| | 2 | | 21 | | | | | 1 |
| 309-2053.120/a | | Bearing baffle | | | | | | |
| 7 | | 423431.11 | p.8 | | 1020x1020 | | | 18,- |
| | 2 | | 21 | | | | | 1 |
| 509-2067-105 | | Distance rod | | | | | | |
| 8 | | 423431.11 | Ø 16 | | 3795 | | | 54,- |
| | 2 | | 11 | | | | | 8 |

| | | | | | |
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| Issued by | Ing. Lick | Analyzer | Change | Date | Signature d |
| Tested by | Kalkrabek Menšík | Production | | | c |
| Approved by | | Date | | | b |
| Type | | | | | a |
| Order | Tube bundle 611 C | | Previous piece list | Total weight of assembly | |
| K | | Dept. 09 | Piece list No. 2105.008/a | Sheet/No. of sheets 1 / 4 | |

Serial No. of PL

# PIECE LIST

Initial assembl. design | Order No. | Assembly gr.

| DRAWING No. | | DESCRIPTION | | | NOTE | | |
|---|---|---|---|---|---|---|---|
| Position No. | Standard No. / Weight of 1m (m²) | Material / Material No. | Basic mater. dimens. - Model No / s.t.u. | | Pcs on order / Quality in s.t.u. | | Net weight for 1 des. / Pcs for 1 des. |
| 9 | 2 | Distance tube<br>ASTM 811 / Admiralty Typ B | tube 25x2,5<br>192532 /0 | 670 | | | 2,01<br>2 |
| 10 | 2 | Distance tube A<br>ASTM B 111<br>Admiralty typ B | 25x2,5<br>192532 80 | 470 | | | 4,25<br>6 |
| 11 | 2 | Distance tube A<br>ASTM B 111<br>Admiralty typ B | tube 25x2,5<br>192532 80 | 394 | | | 14,8<br>14 |
| 12 | 2 | Distance tube<br>ASTM B 111<br>Admiralty typ B | tube 25x2,5<br>192532 80 | 659 | | | 1,98<br>2 |
| 13 | 2 | Distance tube<br>ASTM B 111<br>Admiralty typ B | tube 25x2,5<br>192532 80 | 194 | | | 17,48<br>60 |
| 14 | 2 | Distance tube<br>ASTM B 111<br>Admiralty typ B | tube 25x2,5<br>192532 80 | 459 | | | 4,15<br>6 |
| 15 | | | | | | | |
| 509-0040 131 | | Nut M 16 | | A= CH R C | | | |
| 16 | 2 | 423431.11 | Ø 35 | 16 | | | 0,56<br>16 |
| 17 | | | | | | | |
| 509-0923.342/a | | Slide rod I. alternative | | A=CH.R. | | | |
| 18 | 2 | 423431.1 | Ø 20 | 3176 | | | 9,45<br>1 |
| 509-0923.342/a | | Slide rod II. altern. | | A= Ch.R. | | | |
| 19 | 2 | 423431.1 | Ø 20 | 3376 | | | 8,9<br>1 |

Issued by Ing. Lick | Analyzer
Tested by Fülkrábek | Production
Approved by Menšík | Date
Type

Change | Date | Signature | d c b a

Order: Tube bundle

Previous piece list | Total weight of assembly

K | Dept. 09 | Piece list No. 2105.008/a | Sheet/No. of sheets 2 / 4

Serial No. of PL

# PIECE LIST

| Initial assembl. design | Order No. | Assembly gr. |
|---|---|---|
| | | |

| Position No. | DRAWING No. / Standard No. / Weight of 1m(m²) | DESCRIPTION / Material / Material No. | Basic mater. dimens. – Model No / S.t.u. | NOTE / Pcs on order / Quality in s.t.u. | Net weight for 1 des. / Pcs for 1 des. |
|---|---|---|---|---|---|
| 20 | | | | | |
| | 409-0904.451/a | Stopping plate | A÷CH.R. | | |
| 21 | 2 | 423431.11 \| p.6 \| 21 | 240x240 | | 5,9 / 2 |
| | | Packing piece | A R | | |
| 22 | 2 | 423431.14 p.3 | 10x240 | | 0,253 / 4 |
| | 509-0923 438 | Yoke | A | | |
| 23 | 2 | 423431.11 \| Ø 6 \| 11 | 90 | | 0,172 / 8 |
| | 509-0040.132 | Nut M 6 | A C | | |
| 24 | 2 | 4223431.14 Ø 12 | 8 | | 0,048 / 16 |
| 25 | | | | | |
| | 509-0878.029 | Plug bolt M 30 | | | |
| 26 | 2 | 17240.4 \| Ø 40 \| 30 | 53 | | 0,4 / 2 |
| | | Sealing | | | |
| 27 | ČSN 029021<br>2 | it 07 \| th. 1 mm | Ø 40/Ø 31 | | 0,0002 |
| 28 | | | | | |
| | 409-0030.017 | Suspension bolt M 27 x 170 | | | |
| 29 | 6 | 11523.0 \| Ø 28 \| 63 | 450 | | 3,6 / 2 |
| 30 | | | | | |

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| Issued by | Ing. Lick | Analyzer | |
| Tested by | Pálkraček | Production | |
| Approved by | Mensík | Date | |
| Type | | | |
| Order | Tube bundle | | |

Change / Date / Signature: d, c, b, a

| Previous piece list | Total weight of assembly |
|---|---|

| K | Dept. 09 | Piece list No. 2105.008/a | Sheet/No. of sheets 3 / 4 |
|---|---|---|---|

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly 2nd |
|---|---|---|---|---|
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| DRAWING No | | DESCRIPTION | | | | NOTE | | |
|---|---|---|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | | | Pcs on order | | Net weight for 1 des. |
| | Weight of 1m (m²) | | Material No. | s.t.u. | | Quality in s.t.u. | | Pcs for 1 des. |
| | | "elding material | | | A. | | | |
| X | | UTP 80 M/ Ø 3,25 | | | | | | 0,4 |
| | | | | | | | | - |
| | | | | | | | | |
| X | | | | | | | | |
| | | | | | | | | |
| | | Tests carried out of every rolled product | | | | | | |
| X | | rest for tube sheets fig. 1 and 2 | | | | | | |
| | | | | | | | | |
| | | Total tensile test | | | of every rolled product | | | |
| X | | 423237.01 mat. by fig. 1 and 2 | | | | | | |
| | | | | | | | | |
| | | Tensile strength test at | t = 125°C | | of every rolled | | | |
| X | | 423237,01 mat. by fig. 1 and 2 | | | product | | | |
| | | | | | | | | |
| X | | | | | | | | |
| | | | | | | | | |
| | | Total number of tests accord. to number of delivered | | | | | | |
| X | | rolled products | | | | | | |
| | | | | | | | | |
| | | Value prescription for tests of tube sheet material | | | | | | |
| X | | $\sigma$ PT min. 3500 kp/cm2 | | | | | | |
| | | $\sigma$ KT -"- 1260 kp/cm2 | | | | | | |
| | | $\sigma$ 10 -"- 20% | | | | | | |
| X | | $\sigma$ PT by 125°C min. 2800 kp/cm2 | | | | | | |
| | | A = Ch.R. | | | | | | |
| X | | be added | | | | | | |
| | | | | | | | | |
| | | The End | | | | | | |
| X | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Issued by | Ing. Lick | Analyzer | Change | Date | Signature |
| Tested by | Volkrabek | Production | | | |
| Approved by | Mrnčik | Date | | | |
| Type | | | | | |
| Order | Tube bundle | | Previous piece list | Total weight of assembly | |
| VÁLCOVOVOD Šarno | | K | Dept. 09 | Piece list No. 2105.008/a | Sheet/No. of sheets 4 / 4 |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
|---|---|---|---|---|
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| DRAWING No. | DESCRIPTION | NOTE |
|---|---|---|

| Position No. | Standard No. / Weight of 1m (m²) | Material / Material No. | Basic mater. dimens. - Model No. / s.t.u. | Pcs on order / Quality in s.t.u. | Net weight for 1 des. / Pcs for 1 des. |
|---|---|---|---|---|---|
| | 209-1902.094 | Support altern. I, II | | | |
| 0 | | | | | 1 x |
| | | | | | |
| X | | | | | |
| | 209-1902.094/1 | Foundation plate | For altern. I | | |
| 1 | | 11373.1 \| p.14 | 240x900 | | 24,1 |
| | 2 | 07 | | | 1 |
| | 209-1902.094/2 | Foudation plate | For altern. II | | |
| 2 | | 11373.1 \| p.14 | 240x900 | | 24,1 |
| | 2 | 07 | | | 1 |
| | 209-1902.094/3 | Support web | | | |
| 3 | | 11373.1 \| p.14 | 550x850 | | 42,84 |
| | 2 | 07 | | | 1 |
| | 209-1902.094/4 | Saddle plate | | | |
| 4 | | 11416.1 \| p.14 | 300x1092 | | 30,46 |
| | 2 | 16 | | | 1 |
| | 209-1902.094/5 | Rib | | | |
| 5 | | 11373.1 \| p.14 | 220x573 | | 22,2 |
| | | 07 | | | 2 |
| | 209-1902.094/6 | Rib | | | |
| 6 | | 11373.1 \| p.12 | 196x356 | | 6,7 |
| | | | | | 1 |
| | | | | | |
| 7 | | | | | |
| | | Welding material | P 1830 | | |
| X | CSN 420160 | E 44.72 \| Ø 4 | | | 2,28 |
| | 2 | | | | |
| | | The End | | | |
| X | | | | | |

| | | | |
|---|---|---|---|
| Issued by Horák | Analyzer | Change | Date / Signature / d c b a |
| Tested by Půlkrábek | Production | | |
| Approved by Jeneš | Date | | |
| Type | | | |
| Order Support altern. I., II | | Previous piece list | Total weight of assembly |
| 611< | K | Dept. 00 | Piece list No. 1902.091 / Sheet/No. of sheets 1 / 1 |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
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| DRAWING No | | DESCRIPTION | | | | NOTE | | |
|---|---|---|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | | | Pcs on order | | Net weight for 1 des. |
| | Weight of 1m (m²) | | Material No. | s.t.u. | | Quality in s.t.u. | | Pcs for 1 des. |
| 009-2514.067 | | Condenser 611 CA,CB,CC assembly dwg. | | | | | | |
| | | | | | | | | |
| 309-2162.008 | | Bottom with flange sub-assembly | | | | | | |
| 1 | | | | | | | | |
| 209-2115.021/a | | Chamber sub-assembly | | | | | | |
| 2 | | | | | | | | |
| 109-2105.008/a | | Tube bundle sub-assembly | | | | | | |
| 3 | | | | | | | | |
| 209-1902.094/a | | Support - altern. I,II sub-assembly | | | | | | |
| 4 | | | | | | | | |
| | | | | | | | | |
| 5 | | | | | | | | |
| | | | | | | | | |
| | | Shell Ø 1028x1560 | | | | | | |
| 1 | 2 | 11416.1 | p.14 | 16 | | | | |
| | | Shell Ø/1028x1968 | | | | | | |
| 2 | 2 | 11416.1 | p.14 | 16 | | | | |

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| Issued by | Menčov | Analyzer | Change | Date | Signature |
| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |

| Order | Previous piece list | Total weight of assembly |
|---|---|---|
| CONDENSER 611 CA,CB,CC | | |

| K | Dept. 09 | Piece list No. 2514.067/a | Sheet/No. of sheets 1 / 10 |
|---|---|---|---|

Serial No. of PL

# PIECE LIST

Initial assembl. design | Order No. | Assembly gr

| Position No. | DRAWING No. / Standard No. / Weight of 1m(m²) | DESCRIPTION / Material / Material No. / Basic mater. dimens. - Model No / s.t.u. | NOTE / Pcs on order / Quality in s.t.u. | Net weight for 1 des. / Pcs for 1 des. |
|---|---|---|---|---|
| 3 | 409-0542.141 | Reducing flange with collar<br>11416.1 \| forged ring Ø 1410 ±17/Ø940 | ±17x200±15 | |
| 4 | 409-0542.140 | Shell and chamber with cut out<br>11416.0 \| I 8K 3,4 \| 310/650 kg | | |
| 5 | | | | |
| 6 | 309-2310.048/a | Floating head cover<br>weld. sub-assembly | | |
| 7 | 409-2066.032 | Flange cover<br>11416.0 \| block 280xØ80<br>6 \| 20 | | |
| 8 | 409-0721.081 | Floating head bottom<br>11416.1 \| pressing<br>7 | | |
| 9 | 509-0909.072 | Suspension eye - altern.I<br>11416.1 \| p.25 \| 68x100<br>16 \| 16 | | |
| 10 | 509-0908.1072/a | Baffle<br>11416.1 \| p.12 \| 216x964<br>16 | | |
| 11 | 509-0908.1199/a | Baffle<br>11416.1 \| p.12 \| 196x890<br>2 \| 16 | | |
| | | Welding material<br>E44.83<br>2 | | |

Issued by Jancev | Analyzer

Tested by | Production

Approved by | Date

Type

Change | Date | Signature | d c b a

Order
CONDENSER
611 CA, CB, CC

Previous piece list | Total weight of assembly

K | Dept. 09 | Piece list No. 2514.067/a | Sheet/No. of sheets 2 / 10

| Serial No. of PL | | Initial assembl. design | Order No. | Assembly gr. |
|---|---|---|---|---|
| | **PIECE LIST** | | | |

| Position No. | DRAWING No. / Standard No. / Weight of 1m (m²) | DESCRIPTION / Material / Material No. | Basic mater. dimens. - Model No / s.t.u. | NOTE / Pcs on order / Quality in s.t.u. | Net weight for 1 des. / Pcs for 1 des. |
|---|---|---|---|---|---|
| | | | | | |
| | 409-2066.033 | Floating head ring | | | |
| 12 | | weld. sub-assembly | | | |
| | 409-2066.033/1 | Ring | | | |
| 13 | | 11416.1 | p.36 / 16 | 65x3385 | |
| | 409-2066.033/2 | Spacer | | | |
| 14 | | 11373.0 | ∮ 25x6 / 35 | 33 | |
| | | Welding material | | | |
| | | E44.83 | | | |
| | | | | | |
| | 309-2073.008/a | Cover | | | |
| 15 | | welding sub-assembly | | | |
| | 309-2073.008/a/1 | Cover | | | |
| 16 | | 11474.1 | p.80 / 29 | 1215x1215 | |
| | 509-0923.290 | Suspension eye | | | |
| 17 | | 11416.1 | Ø 20 / 44 | 200 | |
| | | Welding material | | | |
| | 2 | E44.83 | | | |
| | | | | | |

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|---|---|---|---|---|---|
| Issued by | Mančev | Analyzer | Change | Date | Signature |
| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |

| Order | Previous piece list | Total weight of assembly | Dept. | Piece list No. | Sheet/No. of sheets |
|---|---|---|---|---|---|
| 611 CA, CB, CC | | | 09 | 2514.067/a | 3 / 10 |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
|---|---|---|---|---|
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| Position No. | DRAWING No. / Standard No. / Weight of 1m ($m^2$) | DESCRIPTION: Material / Material No. | Basic mater. dimens. – Model No / S.t.u. | Pcs on order / Quality in s.t.u. | NOTE: Net weight for 1 des. / Pcs for 1 des. |
|---|---|---|---|---|---|
| 18 | | | | | |
| | 412 9 - 955.360 | Bolt M24x220 | | | |
| 19 | ČSN131520.3 | 15236.7 | Ø 25 | 229 | |
| | 2 | 49 | | | |
| | 5129-955.983 | Nut M24 | | | |
| 20 | ČSN131530.2 | 15233.7 | hex. 36 | 27 | |
| | 2 | 48 | | | |
| | 4129-955.357 | Bolt M 24x190 | | | |
| 21 | ČSN 131520.3 | 15236.7 | Ø 25 | | |
| | 2 | 49 | | | |
| | 509-0028.218 | Bolt M24x235 | | | |
| 22 | | 15236.7 | Ø 25 | 244 | |
| | 2 | 49 | | | |
| | 409-0822.084 | Packing | | | |
| 23 | | Ms Admiralty asbestos | thck. 3 | Ø1250/Ø1210 | |
| | 1 | | | | |
| | 409-0822.086/a | Sealing | | | |
| 24 | | MS Admiralty asbestos | thck.3 | Ø 990 | |
| | 1 | | | | |
| | 409-0822.085 | Sealing | | | |
| 25 | | MS Admiralty asbestos | thck.3 | 0/1070/Ø1030 | |
| | 1 | | | | |
| | 409-0822.087/a | Sealing | | | |
| 26 | | Fe + asbestps | thck.3 | Ø 1070 | |
| | 1 | | | | |
| 27 | | | | | |
| 28 | | | | | |

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| Issued by | Mančev | Analyzer | Change | Date | Signature |
| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |

| Order | Previous piece list | Total weight of assembly | Dept. | Piece list No. | Sheet/No. of sheets |
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| CONDENSER 611 CA, CE, CC | | | K 09 | 2514.067/a | 4 / 10 |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
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| DRAWING No. | | DESCRIPTION | | | NOTE | | |
|---|---|---|---|---|---|---|---|
| Position No. | Standard No. / Weight of 1m (m²) | Material / Material No. | Basic mater. dimens. - Model No / s.t.u. | | Pcs on order / Quality in s.t.u. | | Net weight for 1 des. / Pcs for 1 des. |
| 409-2064.077/a | | Two-part ring | | | | | |
| 29 | 2 | 11416.1 / 16 | p.46 | 80x3530 | | | |
| | | Every melt, after annealing, is to be subjected to certifying tests of basic material | | | fig. | 29 | |
| | | Testing plate | | | | | |
| 30 | 1 | 11416.1 / 16 | p.46 | 100 x 900 | | | |
| | | Rod for tensile test mater. in fig.30 | | | | | |
| | | Rod for bend test mater. in fig 30 | | | | | |
| | | Rod for notch toughness test mat. in fig. 30 | | | | | |
| 509-0918.1012 | | Nozzle tube | | | | | |
| 31 | 2 | 12021.1 / 11 | tube 168x14 | 112 | | | |
| 309-0631.012 | | Elbow | | | | | |
| 32 | 6 | 11416.1 / 16 | p.16 | 350x450/x2 | | | |
| 409-0508.030/a | | Flange 6"150LB (l=140mm) | | | | | |
| 33 | 6 | NKS13230-79 11416.0 / 20 | block 250x250 | 120 | | | |
| 509-0918.866 | | Nozzle tube | | | | | |
| 34 | 2 | 12021.1 / 11 | tube 168x14 | 192 | | | |
| 409-0794.177 | | Welded on piece 3/4" 14 NPT (l=75) | | | | | |
| 35 | 2 | 11416.1 / 44 | Ø50 | | | | |

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| Issued by Mančev | Analyzer | change | date | signature | d |
| Tested by | Production | | | | c |
| Approved by | Date | | | | b |
| Type | | | | | a |

| | Order | Previous piece list | Total weight of assembly | | | |
|---|---|---|---|---|---|---|
| | CONDENSER 611 CA, CB, CC | K | Dept. 09 | Piece list No. 2514.067/a | Sheet/No. of sheets 9 / 10 | |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr. |
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| DRAWING No. | DESCRIPTION | NOTE |
|---|---|---|
| Position No. / Standard No. / Weight of 1m(m²) | Material / Basic mater. dimens. - Model No / Material No. / S.t.u. | Pcs on order / Quality in s.t.u. / Net weight for 1 des. / Pcs for 1 des. |
| 409-0794.176 | Welded on piece 3/4" -14 NPT | |
| 36 / 2 | 11416.1 \| Ø 50 \| 121 / 44 | |
| 409-0879.001 | Plug 3/4" - 14NPT | |
| 37 / 2 | 11416.1 \| Ø 30 \| 78 / 44 | |
| | Plug thread to be painted before assembly | |
| 38 / 2 | O-2004 \| for sealing and in chamber fig.2 | |
| 39 | | |
| 40 | | |
| 5122200.633 | Anchor bolt M24x250 | |
| 41 / 2 | ČSN021101.10 11500.0 \| drawn #36 \| 268 / 48 | |
| | Nut M 24 | |
| 42 / 2 | ČSN 0214.01 5 D | |
| | Packing piece B 25 | |
| 43 / 2 | ČSN 021702.10 11 423 | |
| 509-0953.289 | Plate | |
| 44 / 2 | 11373.0 \| plate 20 \| 180x180 / 06 | |
| | Forcing-off screw M16x30 | |
| 45 / 2 | ČSN021121.11 5 D | |
| | Welding material | |
| | E 18/8 12s | |

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| Issued by | Jančev | Analyzer | Change | Date | Signature |
| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |

| Order | Previous piece list | Total weight of assembly | | | |
|---|---|---|---|---|---|
| CONDENSER 611 CA, CB, CC | K | Dept. 09 | Piece list No. 2514.067/0 | Sheet/No. of sheets 6 /10 | |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr |
|---|---|---|---|---|
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| DRAWING No. | | DESCRIPTION | | | | NOTE | | |
|---|---|---|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | | | Pcs on order | | Net weight for 1 des. |
| | Weight of 1m (m²) | | Material No. | S.t.u. | | Quality in s.t.u. | | Pcs for 1 des. |
| | | Welding material | | | | | | |
| | | E 44.83 | | | | | | |
| | 2 | | | | | | | |
| | | Wire for automatic | | | | | | |
| | | Ao | | | | | | |
| | 2 | | | | | | | |
| | | Flux | | | | | | |
| | | VUS 34 Mn | | | | | | |
| | 2 | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 309-268.0193 | | Insulation clips | | | | | | |
| 46 | | 11373.0 | Ø 26x3 | | 1050/25 pcs | | | |
| | 2 | | 10 | | | | | |
| 409-0900.1712 | | Name plate packing piece | | | | | | |
| 47 | | 11373.0 | p.6 | | 415x195 | | | |
| | 2 | | 06 | | | | | |
| 309-0182.086 | | Name plate 180x210 | | | | | | |
| 48 | NKS02007-70 | 13246.4 | pl.6 | | 200x230 | | | |
| | 5 | | | | | | | |
| | | | | | | | | |
| 49 | | | | | | | | |
| | | | | | | | | |
| | | Running-on plate | | | | | | |
| 50 | | "OS" | p.14 | | 100x100 | | | |
| | | | | | | | | |
| | | All welds incl. of nozzle welds of chamber fig.2 | | | | | | |
| | | and welds of cover of floating head fig.6 shall be | | | | | | |
| | | tested after annealing by magnetic method for | | | | | | |
| | | cracks. | | | | | | |
| | | Pushing-on and puching-out test of tube bundle at | | | | | | |
| | | presence of CKJ representative. | | | | | | |

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| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |
| Order | COMPENSER 611 CA, CE, CC | | Previous piece list | Total weight of assembly | |
| | | | K | Dept. 09 | Piece list No. 2514.067/a |

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| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr |
|---|---|---|---|---|
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| DRAWING No. | | DESCRIPTION | | | NOTE | | |
|---|---|---|---|---|---|---|---|
| Position No. | Standard No. / Weight of 1m (m²) | Material / Material No. | Basic mater. dimens. - Model No / s.t.u. | | Pcs on order / Quality in s.t.u. | | Net weight for 1 des. / Pcs for 1 des. |
| | | Water pressure test of tube and inter-tube space. Group Sc process A at presence of ČKD representative and of customers representative. Pressures in individual spaces stated in table of tech.data on assembly dwg. Pressure test carried out accord.to customers dwg No. 388 D-3. | | | | | |
| 51 | ČSN02902.1 2 | Sealing 17-01 | th. 1,5 | Ø 1250/Ø 1210 | for pressure test | | |
| 52 | 2 | Gland asbestos + grafit cord ≠ 15x15 | | | 3200 | | |
| 53 | | | | | | | |
| 54 | | | | | | | |
| 55 | | | | | | | |
| | | Before pressure test the apparatus is to be cleaned and dried afterwards. Final test with original sealing and connecting bolts. | | | | | |
| | | Longitudinal and cross welds ground flush. | | | | | |
| | | Nozzles and welded-on pieces welded in shell by 1/2 V shal be, from inside, grooved in pure metal, welded up and ground flush. | | | | | |

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| Tested by | Production | | | | c |
| Approved by | Date | | | | b |
| Type | | | | | a |

| Order | Previous piece list | Total weight of assembly | | | |
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| 611 CA, CB, CC | K | Dept. 09 | Piece list No. 2514.067/a | Sheet/No. of sheets 8 / 10 | |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr |
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| DRAWING No. | | DESCRIPTION | | | | NOTE | |
|---|---|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | | | Pcs on order | Net weight for 1 des. |
| | Weight of 1m(m²) | | Material No. | S.t.u. | | Quality in s.t.u. | Pcs for 1 des. |
| | | Attesting areas, name plate, bolts and nuts degreased and coated 2x by conserving wax Dewax r 40. Nozzle flanges blinded by wooden covers screwed on by 4 bolt at least. | | | | | |
| | | Wax consumption ~1,5 kg. | | | | | |
| | | Nozzle flange sealing areas degreased and coated 1x by wax Dewax r 40 | | | | | |
| | | S - 1820 | | | | | |
| | | Forgings fig. 33 tested accord.to TC 409-196; NKS 13240.14 | | | | | |
| | | Testing fixture for pressure test issued under order No. 2S 36018. | | | | | |
| Coat of insul. | | parts - i.e. shell and bottom of floating head; surface brushed | | | | | |
| | 2 | S- 2004 | | ~20 m2 | | | 1x |
| Coat of non-insul. parts - i.e. chamber fig 2 and support jetted | | | | | | | |
| | 2 | S- 2088 | | ~ 10 m2 | | | 1x |
| | | U - 2000 | | | | | |
| | 2 | | | ~10 m2 | | | 1x |
| | | U - 2050 | | | | | |
| | | | | ~ 10 m2 | | | 1x |
| Note | | Flange coat carried out by appertaining paint up to sealing area. | | | | | |

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| Issued by | ančev | Analyzer | Change | Date | Signature |
| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |
| Order: CONDENSER 611 CA, CB, CC | | Previous piece list | Total weight of assembly | | |
| K | Dept. 09 | Piece list No. 2514.067/a | Sheet/No. of sheets 9 / 10 | | |

| Serial No. of PL | PIECE LIST | Initial assembl. design | Order No. | Assembly gr |
|---|---|---|---|---|
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| DRAWING No. | | DESCRIPTION | | | | NOTE | | |
|---|---|---|---|---|---|---|---|---|
| Position No. | Standard No. | Material | Basic mater. dimens. - Model No | | | Pcs on order | | Net weight for 1 des. |
| | Weight of 1m($m^2$) | | Material No. | S.t.u. | | Quality in s.t.u. | | Pcs for 1 des. |
| | | Conserved spare parts sea-worth packed. | | | | | | |
| | | Coating and surface treating incl. of process when setting on layers accord.to spec. P2. | | | | | | |
| | | Assembly packing piece | | | | | | |
| 56 | NKS 65430 | "O" | p.2 | | 80x340 | | | |
| | | Assembly packing piece | | | | | | |
| 57 | NKS65430 | "O" | p.5 | | 80x340 | | | |
| | 2 | | | | | | | |
| | | Assembly packing piece | | | | | | |
| 58 | NKS65430 | "O" | p.8 | | 80x340 | | | |
| | 2 | | | | | | | |
| | | Assembly packing piece | | | | | | |
| 59 | NKS65430 | "O" | p.10 | | 80x340 | | | |
| | 2 | | | | | | | |
| | | The End ! | | | | | | |

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| Issued by | [illegible]nčev | Analyzer | Change | Date | Signature |
| Tested by | | Production | | | |
| Approved by | | Date | | | |
| Type | | | | | |

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|---|---|---|---|---|
| Order 611 CA,CB, CC | Previous piece list | Total weight of assembly | | |
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