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5855-3

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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

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**Aerospace — MJ threads —**

**Part 3 :**

Limit dimensions for fittings for fluid systems

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*Aéronautique et espace — Filetage MJ —*

*Partie 3 : Dimensions limites pour raccordement de systèmes de fluides*

ISO 5855-3:1988  
<https://standards.iteh.ai/catalog/standards/sist/879f597f-e286-4d4b-8ca4-f08d53c9548c/iso-5855-3-1988>

Reference number  
ISO 5855-3 : 1988 (E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5855-3 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*.

<https://standards.iteh.ai/catalog/standards/sist/879f597f-e286-4d4b-8ca4-f08d53c9548c/iso-5855-3-1988>

ISO 5855 consists of the following parts, under the general title *Aerospace – MJ threads*:

- *Part 1: General requirements*
- *Part 2: Limit dimensions for bolts and nuts*
- *Part 3: Limit dimensions for fittings for fluid systems*

# Aerospace — MJ threads —

## Part 3 :

### Limit dimensions for fittings for fluid systems

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### 1 Scope

This part of ISO 5855 specifies limit dimensions of MJ threads for fluid systems fittings for aerospace construction.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 5855. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5855 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 965-1 : 1980, *ISO general purpose metric screw threads — Tolerances — Part 1 : Principles and basic data*.

ISO 5855-1 : 1988, *Aerospace — MJ threads — Part 1 : General requirements*.

### 3 Nominal diameters and pitches

See table 1.

**Table 1 — Nominal diameters and pitches**

Dimensions in millimetres

| Nominal diameter<br><i>d</i> or <i>D</i> | Pitch<br><i>P</i> | Nominal diameter<br><i>d</i> or <i>D</i> | Pitch<br><i>P</i> |
|--|-------------------|--|-------------------|
| 8  | 1                 | 27                                       | 1,5               |
| 10                                       | 1                 | 30                                       | 1,5               |
| 12                                       | 1,25              | 33                                       | 1,5               |
| 14                                       | 1,5               | 36                                       | 1,5               |
| 16                                       | 1,5               | 39                                       | 1,5               |
| 18                                       | 1,5               | 42                                       | 2                 |
| 20                                       | 1,5               | 48                                       | 2                 |
| 22                                       | 1,5               | 50                                       | 2                 |
| 24                                       | 1,5               |  |                   |

### 4 Tolerance classes

See table 2.

**Table 2 — Tolerance classes**

| Assembly                               | External threads      |    | Internal threads      |    |
|--|-----------------------|----|-----------------------|----|
|  | <i>d</i>              | 6h | <i>D</i> <sub>1</sub> | 5H |
| General case<br>(clearance may be nil) | <i>d</i>              | 6h | <i>D</i> <sub>1</sub> | 5H |
|  | <i>d</i> <sub>2</sub> | 4h | <i>D</i> <sub>2</sub> | 4H |
| Requiring systematic<br>clearance      | <i>d</i>              | 6g | <i>D</i> <sub>1</sub> | 5H |
|  | <i>d</i> <sub>2</sub> | 4g | <i>D</i> <sub>2</sub> | 4H |

### 5 Provisions for coated threads

Before coating, the dimensions of the threads shall be compatible with the thickness of the coating selected and with the limit dimensions for finished parts specified in clause 6.

6 Limit dimensions for finished parts (coated or non-coated)

6.1 External threads

6.1.1 4h6h external threads

Figure 1 illustrates the position and the form of the limit profiles (maximum and minimum) in relation to the basic profile (see ISO 5855-1).

Tables 3 and 4 specify the limit dimensions.

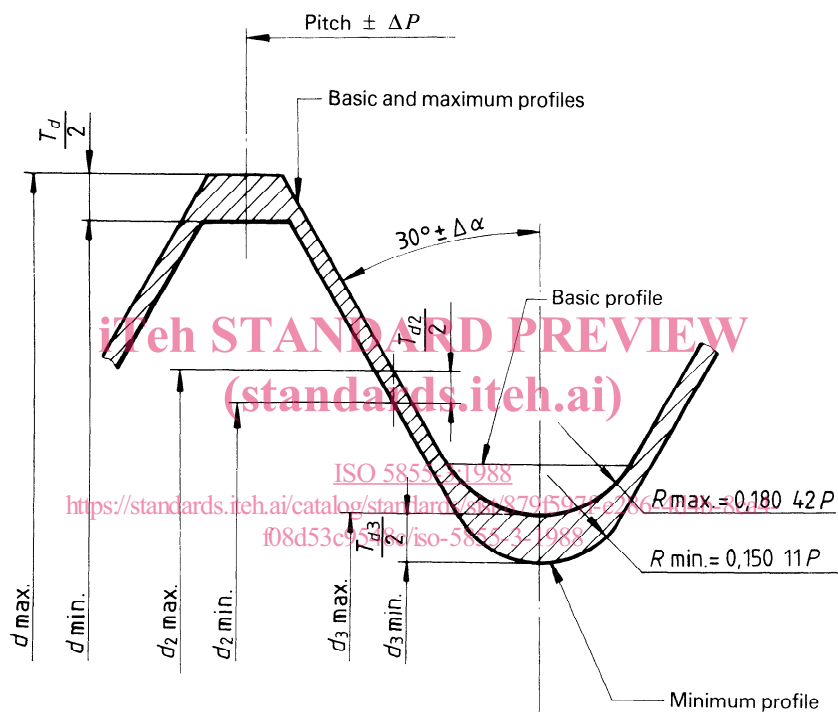


Figure 1 — Limit profiles for external threads (clearance may be nil)

**Table 3 — Limit dimensions for 4h6h external threads**

Dimensions in millimetres

| Thread designation | Major diameter<br><i>d</i> |        |  | Pitch diameter<br><i>d</i> <sub>2</sub> |        |   | Minor diameter<br><i>d</i> <sub>3</sub> |        |                               |
|--------------------|----------------------------|--------|--|---|--------|---|---|--------|-------------------------------|
|                    | max.                       | min.   | <i>T</i> <sub><i>d</i></sub><br>(6h) <sup>1)</sup> | max.                                    | min.   | <i>T</i> <sub><i>d</i>2</sub><br>(4h) <sup>1)</sup> | max.                                    | min.   | <i>T</i> <sub><i>d</i>3</sub> |
| MJ8 × 1 — 4h6h     | 8                          | 7,82   | 0,18   | 7,35                                    | 7,279  | 0,071   | 6,845                                   | 6,713  | 0,132                         |
| MJ10 × 1 — 4h6h    | 10                         | 9,82   | 0,18   | 9,35                                    | 9,279  | 0,071   | 8,845                                   | 8,713  | 0,132                         |
| MJ12 × 1,25 — 4h6h | 12                         | 11,788 | 0,212  | 11,188                                  | 11,103 | 0,085   | 10,557                                  | 10,396 | 0,161                         |
| MJ14 × 1,5 — 4h6h  | 14                         | 13,764 | 0,236  | 13,026                                  | 12,936 | 0,09  | 12,268                                  | 12,087 | 0,181                         |
| MJ16 × 1,5 — 4h6h  | 16                         | 15,764 | 0,236  | 15,026                                  | 14,936 | 0,09  | 14,268                                  | 14,087 | 0,181                         |
| MJ18 × 1,5 — 4h6h  | 18                         | 17,764 | 0,236  | 17,026                                  | 16,936 | 0,09  | 16,268                                  | 16,087 | 0,181                         |
| MJ20 × 1,5 — 4h6h  | 20                         | 19,764 | 0,236  | 19,026                                  | 18,936 | 0,09  | 18,268                                  | 18,087 | 0,181                         |
| MJ22 × 1,5 — 4h6h  | 22                         | 21,764 | 0,236  | 21,026                                  | 20,936 | 0,09  | 20,268                                  | 20,087 | 0,181                         |
| MJ24 × 1,5 — 4h6h  | 24                         | 23,764 | 0,236  | 23,026                                  | 22,931 | 0,095   | 22,268                                  | 22,082 | 0,186                         |
| MJ27 × 1,5 — 4h6h  | 27                         | 26,764 | 0,236  | 26,026                                  | 25,931 | 0,095   | 25,268                                  | 25,082 | 0,186                         |
| MJ30 × 1,5 — 4h6h  | 30                         | 29,764 | 0,236  | 29,026                                  | 28,931 | 0,095   | 28,268                                  | 28,082 | 0,186                         |
| MJ33 × 1,5 — 4h6h  | 33                         | 32,764 | 0,236  | 32,026                                  | 31,931 | 0,095   | 31,268                                  | 31,082 | 0,186                         |
| MJ36 × 1,5 — 4h6h  | 36                         | 35,764 | 0,236  | 35,026                                  | 34,931 | 0,095   | 34,268                                  | 34,082 | 0,186                         |
| MJ39 × 1,5 — 4h6h  | 39                         | 38,764 | 0,236  | 38,026                                  | 37,931 | 0,095   | 37,268                                  | 37,082 | 0,186                         |
| MJ42 × 2 — 4h6h    | 42                         | 41,72  | 0,28   | 40,701                                  | 40,595 | 0,106   | 39,691                                  | 39,463 | 0,228                         |
| MJ48 × 2 — 4h6h    | 48                         | 47,72  | 0,28   | 46,701                                  | 46,589 | 0,112   | 45,691                                  | 45,457 | 0,234                         |
| MJ50 × 2 — 4h6h    | 50                         | 49,72  | 0,28   | 48,701                                  | 48,589 | 0,112   | 47,691                                  | 47,457 | 0,234                         |

1) In accordance with ISO 965-1.

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Table 4 — Root radii for external threads  
<https://standards.catalanica.com/standards/5855-3-1988/4b-8ca4-f08d53c9548c/iso-5855-3-1988>

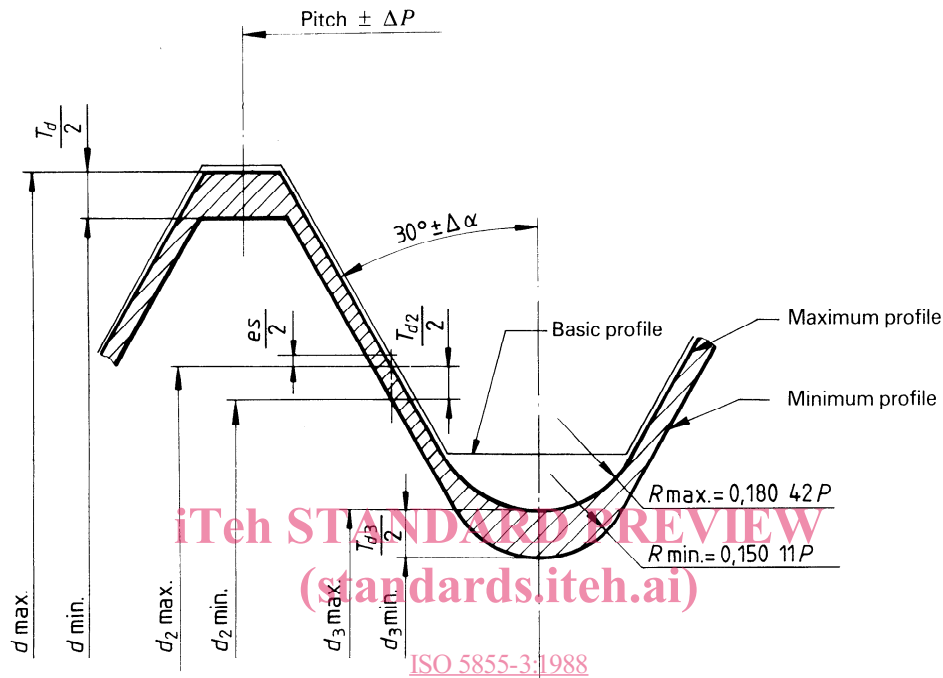
Dimensions in millimetres

| Pitch<br><i>P</i> | Root radius<br><i>R</i> |       |
|-------------------|-------------------------|-------|
|                   | max.                    | min.  |
| 1                 | 0,18                    | 0,15  |
| 1,25              | 0,226                   | 0,188 |
| 1,5               | 0,271                   | 0,225 |
| 2                 | 0,361                   | 0,3   |

6.1.2 4g6g external threads

Figure 2 illustrates the position and the form of the limit profiles (maximum and minimum) in relation to the basic profile (see ISO 5855-1).

Tables 4 and 5 specify the limit dimensions.



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<https://standards.iteh.ai/catalog/standards/sist/879f597f-e286-4d4b-8ca4-f08d53c9548c/iso-5855-3-1988>  
**Figure 2 – Limit profiles for external threads (systematic clearance)**

**Table 5 – Limit dimensions for 4g6g external threads**

Dimensions in millimetres

| Thread designation | Major diameter<br>$d$ |        |                             | Pitch diameter<br>$d_2$ |        |                                | Minor diameter<br>$d_3$ |        |          |
|--------------------|-----------------------|--------|-----------------------------|-------------------------|--------|--------------------------------|-------------------------|--------|----------|
|                    | max.                  | min.   | $T_d$<br>(6g) <sup>1)</sup> | max.                    | min.   | $T_{d2}$<br>(4g) <sup>1)</sup> | max.                    | min.   | $T_{d3}$ |
| MJ8 × 1 – 4g6g     | 7,974                 | 7,794  | 0,18                        | 7,324                   | 7,253  | 0,071                          | 6,819                   | 6,687  | 0,132    |
| MJ10 × 1 – 4g6g    | 9,974                 | 9,794  | 0,18                        | 9,324                   | 9,253  | 0,071                          | 8,819                   | 8,687  | 0,132    |
| MJ12 × 1,25 – 4g6g | 11,972                | 11,76  | 0,212                       | 11,16                   | 11,075 | 0,085                          | 10,529                  | 10,368 | 0,161    |
| MJ14 × 1,5 – 4g6g  | 13,968                | 13,732 | 0,236                       | 12,994                  | 12,904 | 0,09                           | 12,236                  | 12,055 | 0,181    |
| MJ16 × 1,5 – 4g6g  | 15,968                | 15,732 | 0,236                       | 14,994                  | 14,904 | 0,09                           | 14,236                  | 14,055 | 0,181    |
| MJ18 × 1,5 – 4g6g  | 17,968                | 17,732 | 0,236                       | 16,994                  | 16,904 | 0,09                           | 16,236                  | 16,055 | 0,181    |
| MJ20 × 1,5 – 4g6g  | 19,968                | 19,732 | 0,236                       | 18,994                  | 18,904 | 0,09                           | 18,236                  | 18,055 | 0,181    |
| MJ22 × 1,5 – 4g6g  | 21,968                | 21,732 | 0,236                       | 20,994                  | 20,904 | 0,09                           | 20,236                  | 20,055 | 0,181    |
| MJ24 × 1,5 – 4g6g  | 23,968                | 23,732 | 0,236                       | 22,994                  | 22,899 | 0,095                          | 22,236                  | 22,05  | 0,186    |
| MJ27 × 1,5 – 4g6g  | 26,968                | 26,732 | 0,236                       | 25,994                  | 25,899 | 0,095                          | 25,236                  | 25,05  | 0,186    |
| MJ30 × 1,5 – 4g6g  | 29,968                | 29,732 | 0,236                       | 28,994                  | 28,899 | 0,095                          | 28,236                  | 28,05  | 0,186    |
| MJ33 × 1,5 – 4g6g  | 32,968                | 32,732 | 0,236                       | 31,994                  | 31,899 | 0,095                          | 31,236                  | 31,05  | 0,186    |
| MJ36 × 1,5 – 4g6g  | 35,968                | 35,732 | 0,236                       | 34,994                  | 34,899 | 0,095                          | 34,236                  | 34,05  | 0,186    |
| MJ39 × 1,5 – 4g6g  | 38,968                | 38,732 | 0,236                       | 37,994                  | 37,899 | 0,095                          | 37,236                  | 37,05  | 0,186    |
| MJ42 × 2 – 4g6g    | 41,962                | 41,682 | 0,28                        | 40,663                  | 40,557 | 0,106                          | 39,653                  | 39,425 | 0,228    |
| MJ48 × 2 – 4g6g    | 47,962                | 47,682 | 0,28                        | 46,663                  | 46,551 | 0,112                          | 45,653                  | 45,419 | 0,234    |
| MJ50 × 2 – 4g6g    | 49,962                | 49,682 | 0,28                        | 48,663                  | 48,551 | 0,112                          | 47,653                  | 47,419 | 0,234    |

1) In accordance with ISO 965-1.

6.2 Internal threads

Figure 3 illustrates the position and the form of the limit profiles (maximum and minimum) in relation to the basic profile (see ISO 5855-1).

Table 6 specifies the limit dimensions.

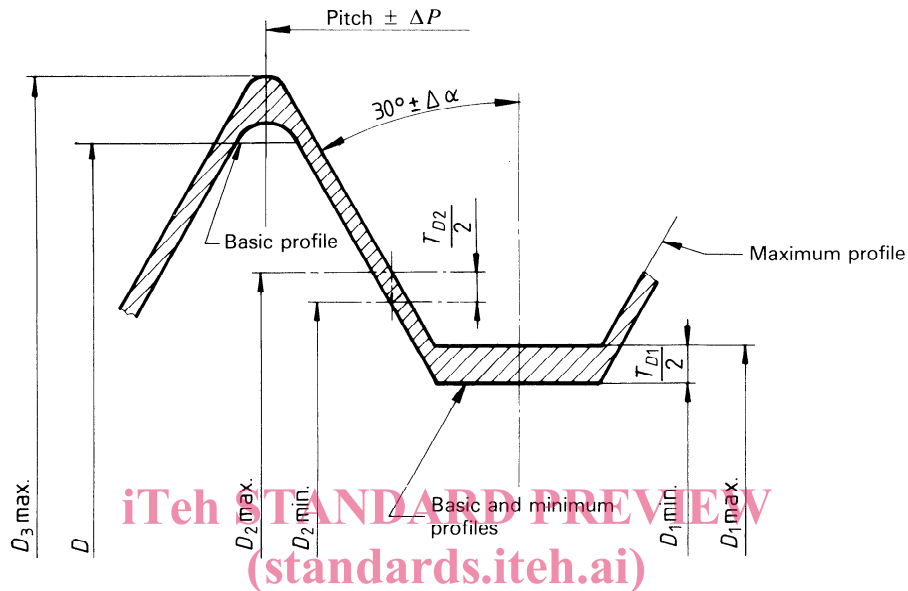


Figure 3 – Limit profiles for internal threads

ISO 5855-3:1988

<https://standards.iteh.ai/catalog/standards/sist/879f597f-e286-4d4b-8ca4-f08d53c9548c/iso-5855-3-1988>

Table 6 – Limit dimensions for 4H5H internal threads

Dimensions in millimetres

| Thread designation | Major diameter<br>$D_3^{1)}$ | Pitch diameter<br>$D_2$ |        |                                | Minor diameter<br>$D_1$ |        |                                |
|--------------------|------------------------------|-------------------------|--------|--------------------------------|-------------------------|--------|--------------------------------|
|                    | max.                         | max.                    | min.   | $T_{D2}$<br>(4H) <sup>2)</sup> | max.                    | min.   | $T_{D1}$<br>(5H) <sup>2)</sup> |
| MJ8 × 1 – 4H5H     | 8,239                        | 7,445                   | 7,35   | 0,095                          | 7,216                   | 7,026  | 0,19                           |
| MJ10 × 1 – 4H5H    | 10,239                       | 9,445                   | 9,35   | 0,095                          | 9,216                   | 9,026  | 0,19                           |
| MJ12 × 1,25 – 4H5H | 12,292                       | 11,3                    | 11,188 | 0,112                          | 10,994                  | 10,782 | 0,212                          |
| MJ14 × 1,5 – 4H5H  | 14,334                       | 13,144                  | 13,026 | 0,118                          | 12,775                  | 12,539 | 0,236                          |
| MJ16 × 1,5 – 4H5H  | 16,334                       | 15,144                  | 15,026 | 0,118                          | 14,775                  | 14,539 | 0,236                          |
| MJ18 × 1,5 – 4H5H  | 18,334                       | 17,144                  | 17,026 | 0,118                          | 16,775                  | 16,539 | 0,236                          |
| MJ20 × 1,5 – 4H5H  | 20,334                       | 19,144                  | 19,026 | 0,118                          | 18,775                  | 18,539 | 0,236                          |
| MJ22 × 1,5 – 4H5H  | 22,334                       | 21,144                  | 21,026 | 0,118                          | 20,775                  | 20,539 | 0,236                          |
| MJ24 × 1,5 – 4H5H  | 24,342                       | 23,151                  | 23,026 | 0,125                          | 22,775                  | 22,539 | 0,236                          |
| MJ27 × 1,5 – 4H5H  | 27,342                       | 26,151                  | 26,026 | 0,125                          | 25,775                  | 25,539 | 0,236                          |
| MJ30 × 1,5 – 4H5H  | 30,342                       | 29,151                  | 29,026 | 0,125                          | 28,775                  | 28,539 | 0,236                          |
| MJ33 × 1,5 – 4H5H  | 33,342                       | 32,151                  | 32,026 | 0,125                          | 31,775                  | 31,539 | 0,236                          |
| MJ36 × 1,5 – 4H5H  | 36,342                       | 35,151                  | 35,026 | 0,125                          | 34,775                  | 34,539 | 0,236                          |
| MJ39 × 1,5 – 4H5H  | 39,342                       | 38,151                  | 38,026 | 0,125                          | 37,775                  | 37,539 | 0,236                          |
| MJ42 × 2 – 4H5H    | 42,429                       | 40,841                  | 40,701 | 0,14                           | 40,351                  | 40,051 | 0,3                            |
| MJ48 × 2 – 4H5H    | 48,439                       | 46,851                  | 46,701 | 0,15                           | 46,351                  | 46,051 | 0,3                            |
| MJ50 × 2 – 4H5H    | 50,439                       | 48,851                  | 48,701 | 0,15                           | 48,351                  | 48,051 | 0,3                            |

1)  $D_3$  min. is not specified. However, it shall be greater than  $D$  (see figure 3).

2) In accordance with ISO 965-1.

6.3 Tolerances on pitch (lead) and on half flank angle

Taking into consideration the requirements of ISO 5855-1, the values of table 7 are given for information only.

Table 7 — Tolerances on pitch (lead) and on half flank angle

| Nominal diameter<br><i>d</i> or <i>D</i><br>mm | Pitch<br><i>P</i><br>mm | External thread             |                 | Internal thread             |                 |
|--|-------------------------|-----------------------------|-----------------|-----------------------------|-----------------|
|  |                         | $\Delta P$<br>$\mu\text{m}$ | $\Delta \alpha$ | $\Delta P$<br>$\mu\text{m}$ | $\Delta \alpha$ |
| 8  | 1                       | 16,4                        | 1° 5'           | 21,9                        | 1° 27'          |
| 10   |                         |                             |                 |                             |                 |
| 12   |                         |                             |                 |                             |                 |
| 4  | 1,5                     | 20,8                        | 0° 55'          | 27,3                        | 1° 13'          |
| 16   |                         |                             |                 |                             |                 |
| 18   |                         |                             |                 |                             |                 |
| 20   |                         |                             |                 |                             |                 |
| 22   |                         |                             |                 |                             |                 |
| 24   |                         |                             |                 |                             |                 |
| 27   |                         |                             |                 |                             |                 |
| 30   |                         |                             |                 |                             |                 |
| 33   |                         |                             |                 |                             |                 |
| 36   |                         |                             |                 |                             |                 |
| 39   |                         |                             |                 |                             |                 |
| 42   | 2                       | 24,5                        | 0° 49'          | 32,3                        | 1° 4'           |
| 48   |                         |                             |                 |                             |                 |
| 50   |                         |                             |                 |                             |                 |