

# INTERNATIONAL STANDARD

**ISO**  
**7299-1**

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## **Diesel engines — End-mounting flanges for pumps —**

### **Part 1: Fuel injection pumps**

*Moteurs diesels — Brides de montage des pompes —*

*Partie 1: Pompes d'injection de carburant*



Reference number  
ISO 7299-1:2007(E)

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## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 7299-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

This first edition, together with the first edition of ISO 7299-2, cancels and replaces the second edition of ISO 7299 (ISO 7299:1996), which has been technically revised.

ISO 7299 consists of the following parts, under the general title *Diesel engines — End-mounting flanges for pumps*:

- *Part 1: Fuel injection pumps*
- *Part 2: High-pressure supply pumps for common rail fuel injection systems*

# Diesel engines — End-mounting flanges for pumps —

## Part 1: Fuel injection pumps

### 1 Scope

This International Standard specifies dimensional requirements for nine types of end-mounting flanges for fuel injection pumps (rotary, distributor and in-line fuel injection pumps) for use in diesel (compression-ignition) engines.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6519, *Diesel engines — Fuel injection pumps — Tapers for shaft ends and hubs*

### 3 Dimensions and tolerances

#### 3.1 General

Engine manufacturers are encouraged to use the tolerance H8 for the female register diameter.

If functionally necessary, the tolerance g8 on the pump spigot diameter ( $\varnothing d_1$  in the figures) may be replaced by f7, and the tolerance H8 on the female register diameter may be replaced by H7, by mutual agreement between supplier and user.

NOTE 1 The diameter  $d_2$  in the figures and tables corresponds to the diameter  $d$  specified in ISO 6519.

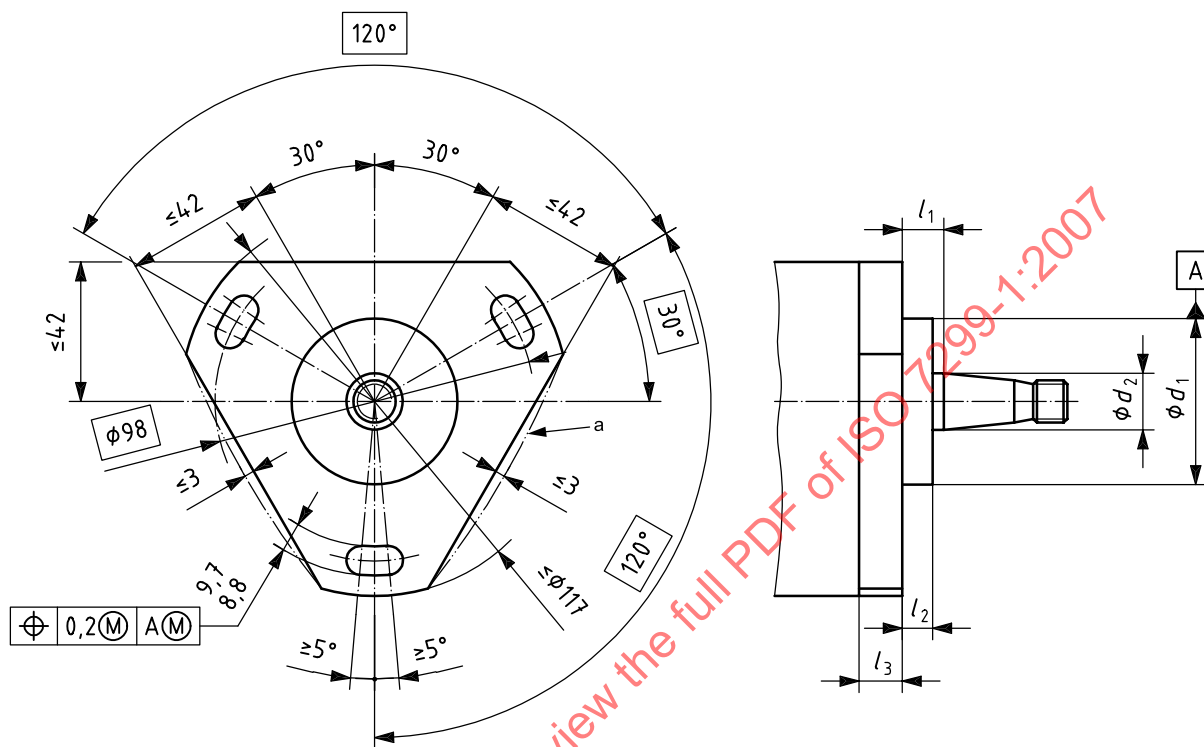
NOTE 2 The flange configuration can optionally be rotated relative to the pump housing.



### 3.2.2 Type 2 end-mounting flange

See Figure 2 and Table 2.

Dimensions in millimetres



<sup>a</sup> This is the optional flange outline.

Figure 2 — Fuel injection pumps — Type 2 end-mounting flange

Table 2 — Fuel injection pumps — Type 2 end-mounting flange

Dimensions in millimetres

| $d_1$<br>98 | $d_2$<br>nom. | $l_1$<br>$\pm 0,5$ | $l_2$<br>max. | $l_3$ |      |
|-------------|---------------|--------------------|---------------|-------|------|
|             |               |                    |               | min.  | max. |
| 50          | 17 or 20      | 12,5               | 11            | 13    | 16   |
|             |               | 17,4               | 16            |       |      |
|             |               | 26                 | 24,5          |       |      |
| 68          | 17, 20 or 25  | 12,5               | 11            | 13    | 16   |
|             |               | 17,4               | 16            |       |      |
|             |               | 26                 | 24,5          |       |      |

3.2.3 Type 3 end-mounting flange

See Figure 3 and Table 3.

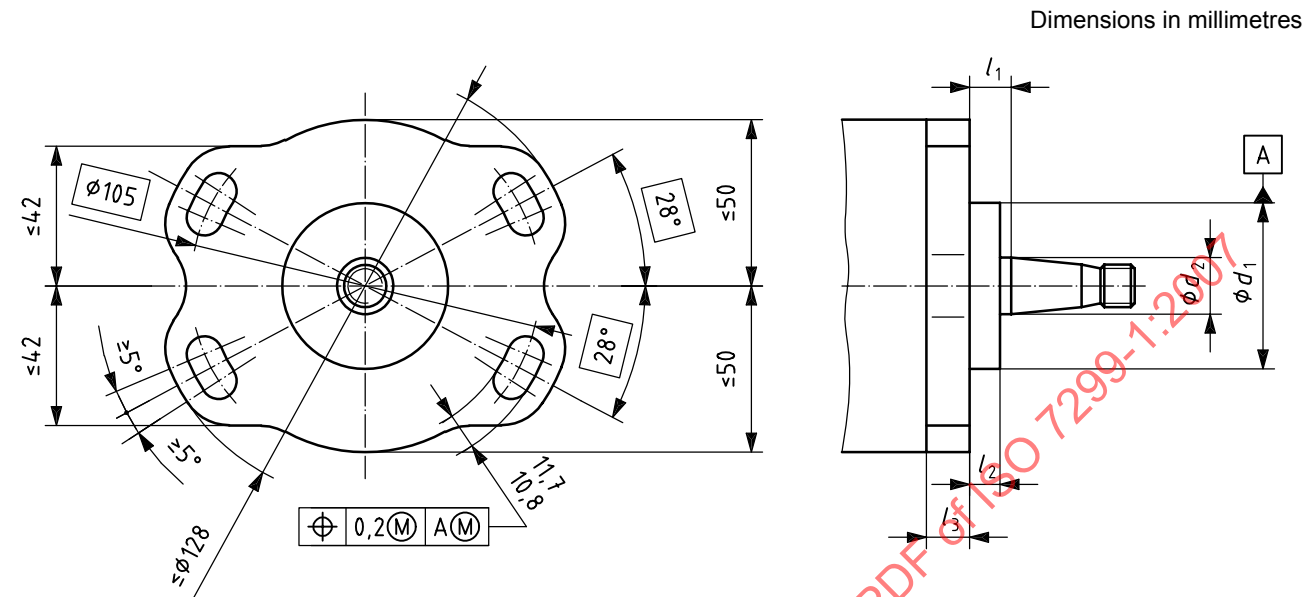


Figure 3 — Fuel injection pumps — Type 3 end-mounting flange

Table 3 — Fuel injection pumps — Type 3 end-mounting flange

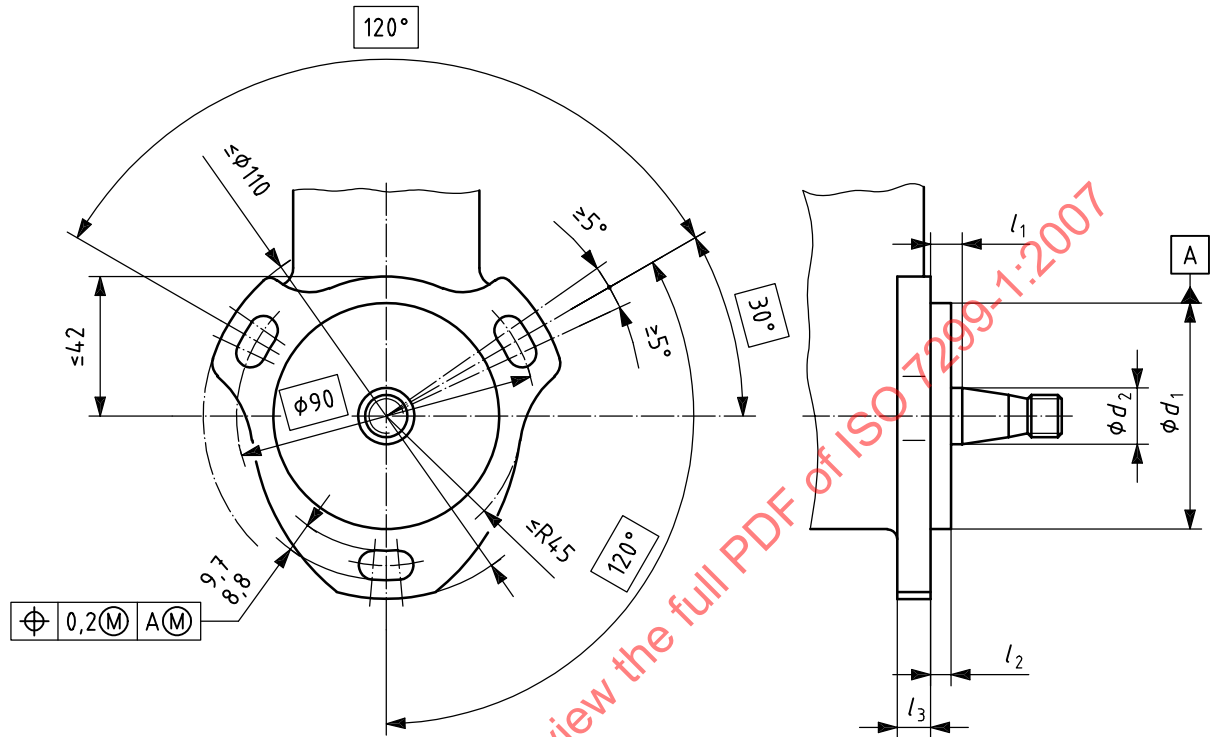
Dimensions in millimetres

| $d_1$                                                                                              | $d_2$    | $l_1$            | $l_2$            | $l_3$ |      |
|----------------------------------------------------------------------------------------------------|----------|------------------|------------------|-------|------|
| g8                                                                                                 | nom.     | $\pm 0,5$        | max.             | min.  | max. |
| 50 or 68                                                                                           | 17 or 20 | 9,5 <sup>a</sup> | 8,2 <sup>a</sup> | 13    | 16   |
|                                                                                                    |          | 12,5             | 11               |       |      |
|                                                                                                    |          | 17,4             | 16               |       |      |
|                                                                                                    |          | 26               | 24,5             |       |      |
| <sup>a</sup> Non-preferred value; only for interchangeability with certain types of in-line pumps. |          |                  |                  |       |      |

### 3.2.4 Type 4 end-mounting flange

See Figure 4 and Table 4.

Dimensions in millimetres



**Figure 4 — Fuel injection pumps — Type 4 end-mounting flange**

**Table 4 — Fuel injection pumps — Type 4 end-mounting flange**

Dimensions in millimetres

| $d_1$ | $d_2$ | $l_1$     | $l_2$ | $l_3$ |      |
|-------|-------|-----------|-------|-------|------|
| g8    | nom.  | $\pm 0,5$ | max.  | min.  | max. |
| 68    | 17    | 9,5       | 8     | 10    | 16   |

3.2.5 Type 5 end-mounting flange

See Figure 5 and Table 5.

Dimensions in millimetres

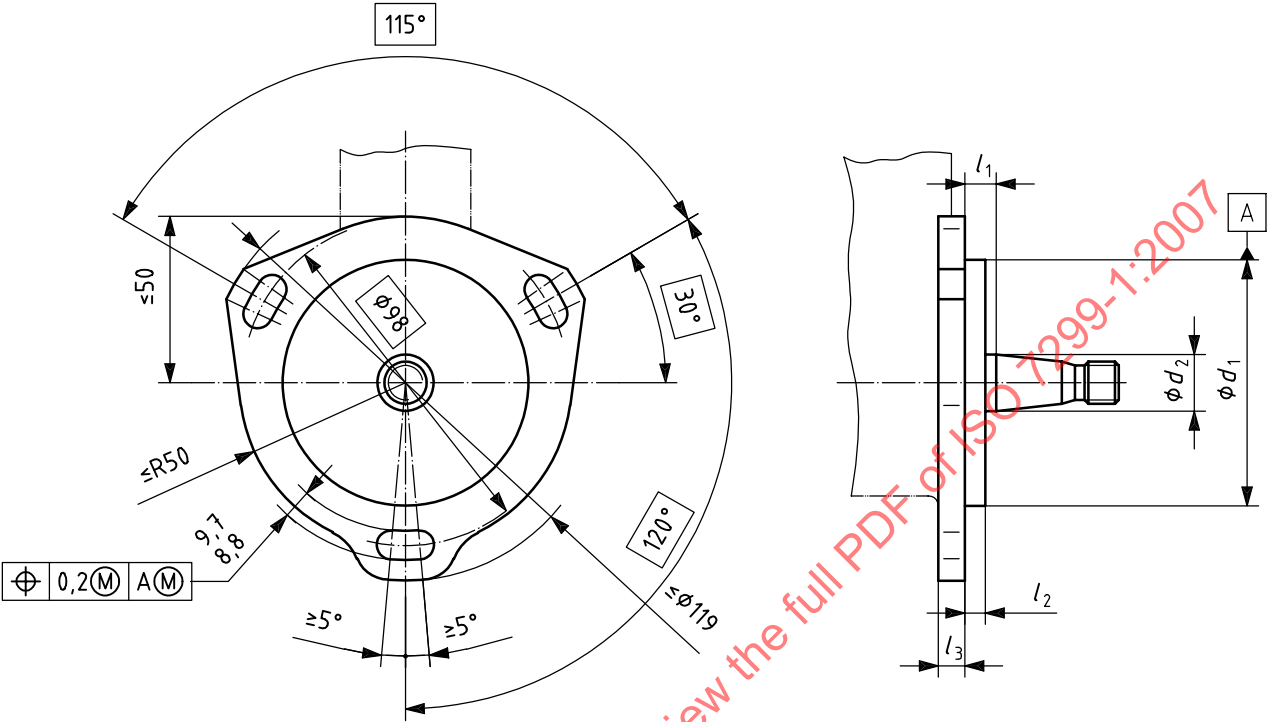


Figure 5 — Fuel injection pumps — Type 5 end-mounting flange

Table 5 — Fuel injection pumps — Type 5 end-mounting flange

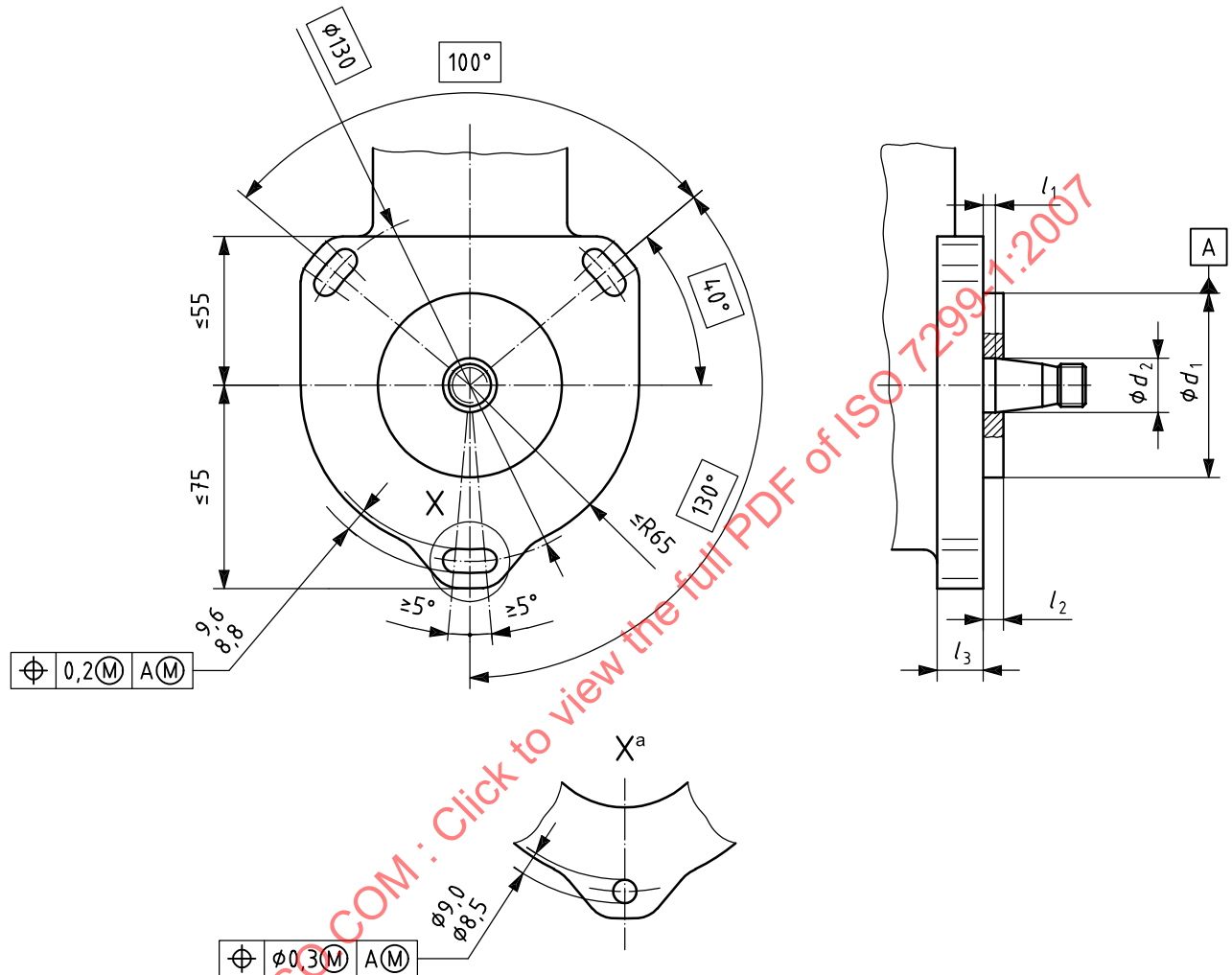
Dimensions in millimetres

| $d_1$    | $d_2$ | $l_1$     | $l_2$ | $l_3$ |      |
|----------|-------|-----------|-------|-------|------|
|          |       |           |       | min.  | max. |
| g8       | nom.  | $\pm 0,5$ | max.  |       |      |
| 74 or 76 | 17    | 9,5       | 8     | 8     | 10   |

### 3.2.6 Type 6 end-mounting flange

See Figure 6 and Table 6.

Dimensions in millimetres



a This option has three holes.

**Figure 6 — Fuel injection pumps — Type 6 end-mounting flange**

**Table 6 — Fuel injection pumps — Type 6 end-mounting flange**

Dimensions in millimetres

| $d_1$<br>g8   | $d_2$<br>nom. | $l_1$<br>$\pm 1$ | $l_2$<br>max. | $l_3$ |      |
|---------------|---------------|------------------|---------------|-------|------|
|               |               |                  |               | min.  | max. |
| 68, 97 or 112 | 20 or 22      | 4,5              | 7,5           | 17    | 18   |
|               |               |                  |               | 24    | 26   |

3.2.7 Type 7 end-mounting flange

See Figure 7 and Table 7.

Dimensions in millimetres

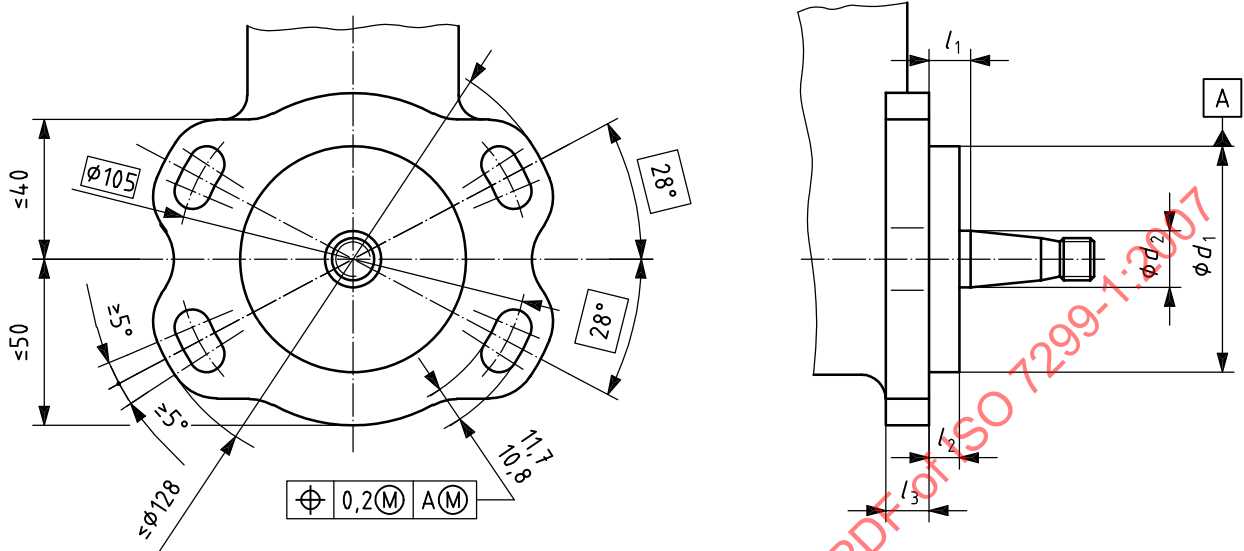


Figure 7 — Fuel injection pumps — Type 7 end-mounting flange

Table 7 — Fuel injection pumps — Type 7 end-mounting flange

Dimensions in millimetres

| $d_1$<br>g8 | $d_2$<br>nom.    | $l_1$<br>$\pm 0,5$ | $l_2$<br>max. | $l_3$ |      |
|-------------|------------------|--------------------|---------------|-------|------|
|             |                  |                    |               | min.  | max. |
| 68 or 85    | 17, 20, 22 or 25 | 4,5                | 8,2           | 15    | 18   |
|             |                  | 9,5                | 8,2           |       |      |
|             |                  | 12,5               | 11            |       |      |
|             |                  | 17,4               | 16            |       |      |