

INTERNATIONAL
STANDARD

ISO
7299

Second edition
1996-05-15

**Diesel engines — End-mounting flanges
for fuel injection pumps**

*Moteurs diesels — Brides de montage des pompes d'injection de
carburant*



Reference number
ISO 7299:1996(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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

This second edition cancels and replaces the first edition (ISO 7299:1984), which has been technically revised with the addition of type 9 flanges.

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Diesel engines — End-mounting flanges for fuel injection pumps

1 Scope

This International Standard specifies dimensional requirements for:

- a) four types of end-mounting flange for rotary and distributor fuel injection pumps,
- b) five types of end-mounting flange for in-line fuel injection pumps,

for use in diesel (compression-ignition) engines.

2 Dimensions and tolerances

2.1 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.

NOTES

1 The diameter d_2 in the figures and tables corresponds to the diameter d specified in ISO 6519:1993, *Diesel engines — Fuel injection pumps — Tapers for shaft ends and hubs*.

2 In the case of in-line fuel injection pumps, the flange configuration can optionally be rotated relative to the pump housing.

2.2 Rotary and distributor fuel injection pumps

2.2.1 Type 1 flange

See figure 1 and table 1.

2.2.2 Type 2 flange

See figure 2 and table 2.

2.2.3 Type 3 flange

See figure 3 and table 3.

2.2.4 Type 9 flange

See figure 4 and table 4.

2.3 In-line fuel injection pumps

2.3.1 Type 4 flange

See figure 5 and table 5.

2.3.2 Type 5 flange

See figure 6 and table 6.

NOTE 3 This type is also suitable for distributor fuel injection pumps.

2.3.3 Type 6 flange

See figure 7 and table 7.

2.3.4 Type 7 flange

See figure 8 and table 8.

2.3.5 Type 8 flange

See figure 9 and table 9.

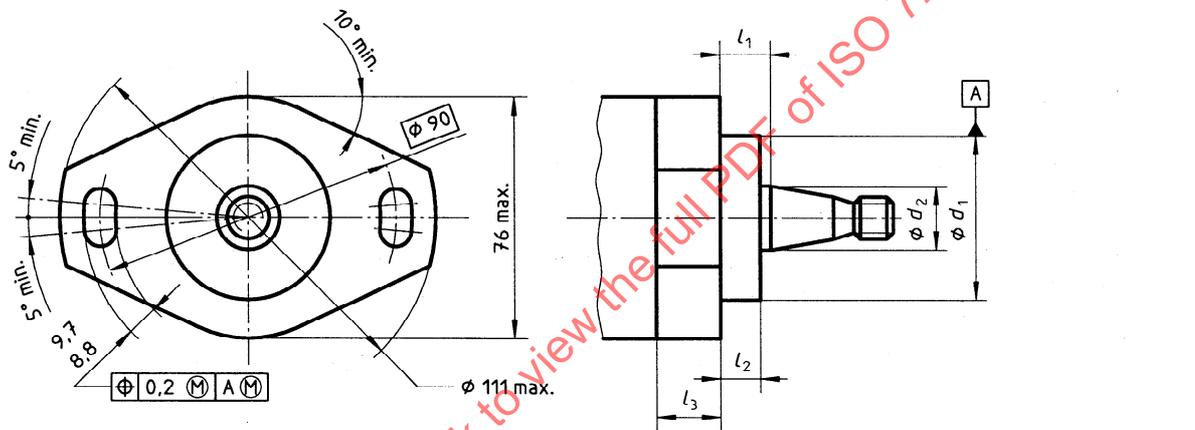


Figure 1 — Rotary and distributor fuel injection pumps — Type 1 end-mounting flange

Table 1

Dimensions in millimetres

| d_1 | d_2 | l_1 | l_2 | l_3 | |
|----------|----------|-----------|-------|-------|------|
| | | | | min. | max. |
| g8 | nom. | $\pm 0,5$ | max. | | |
| 50 or 68 | 17 or 20 | 12,5 | 11 | 13 | 16 |
| | | 26 | 24,5 | | |

Dimensions in millimetres

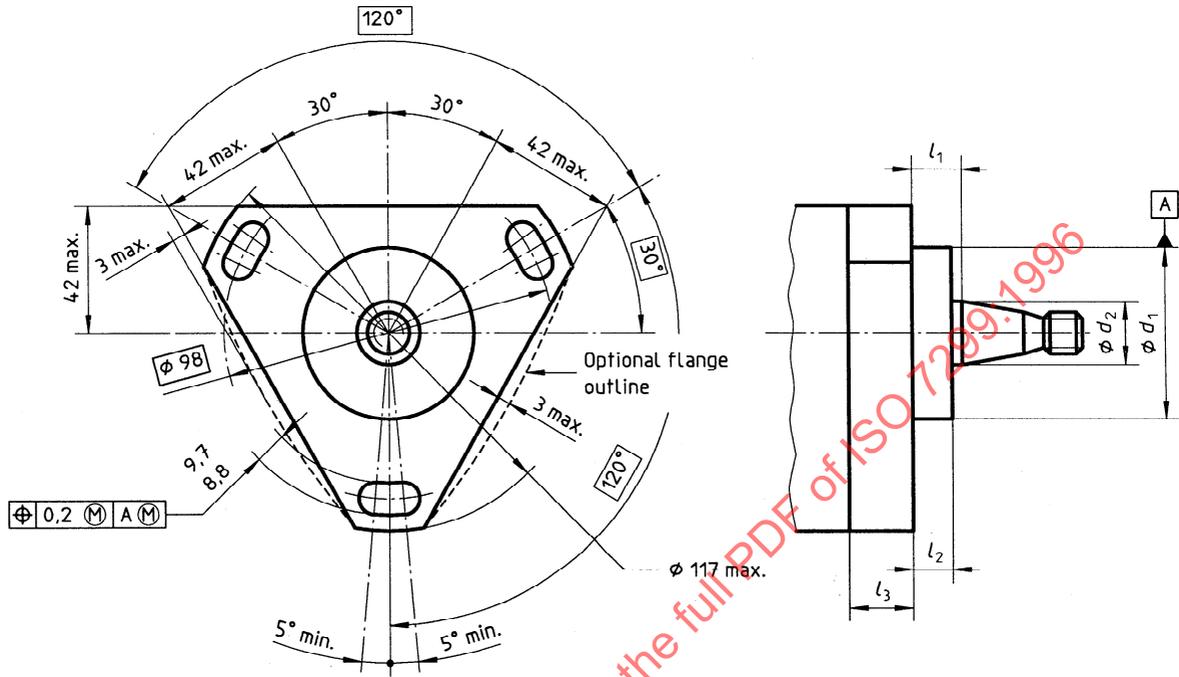


Figure 2 — Rotary and distributor fuel injection pumps — Type 2 end-mounting flange

Table 2

Dimensions in millimetres

| d | d_2 | l_1 | l_2 | l_3 | |
|-----|--------------|-----------|-------|-------|------|
| | | | | min. | max. |
| 98 | nom. | $\pm 0,5$ | 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 | | |

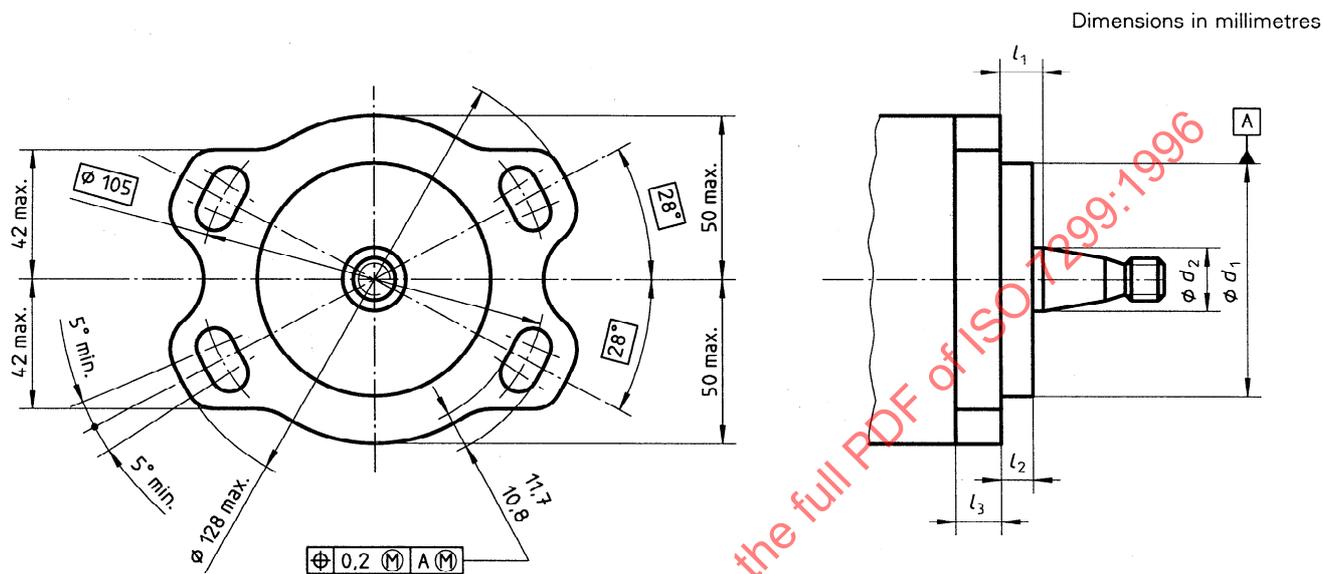


Figure 3 — Rotary and distributor fuel injection pumps — Type 3 end-mounting flange

Table 3

Dimensions in millimetres

| d_1 | d_2 | l_1 | l_2 | l_3 | |
|------------------------------------------------------------------------------------------|----------|-------------------|-------------------|-------|------|
| | | | | min. | max. |
| g8 | nom. | $\pm 0,5$ | max. | | |
| 50 or 68 | 17 or 20 | 9,5 ¹⁾ | 8,2 ¹⁾ | 13 | 16 |
| | | 12,5 | 11 | | |
| | | 17,4 | 16 | | |
| | | 26 | 24,5 | | |
| 1) Non-preferred value; only for interchangeability with certain types of in-line pumps. | | | | | |

Dimensions in millimetres

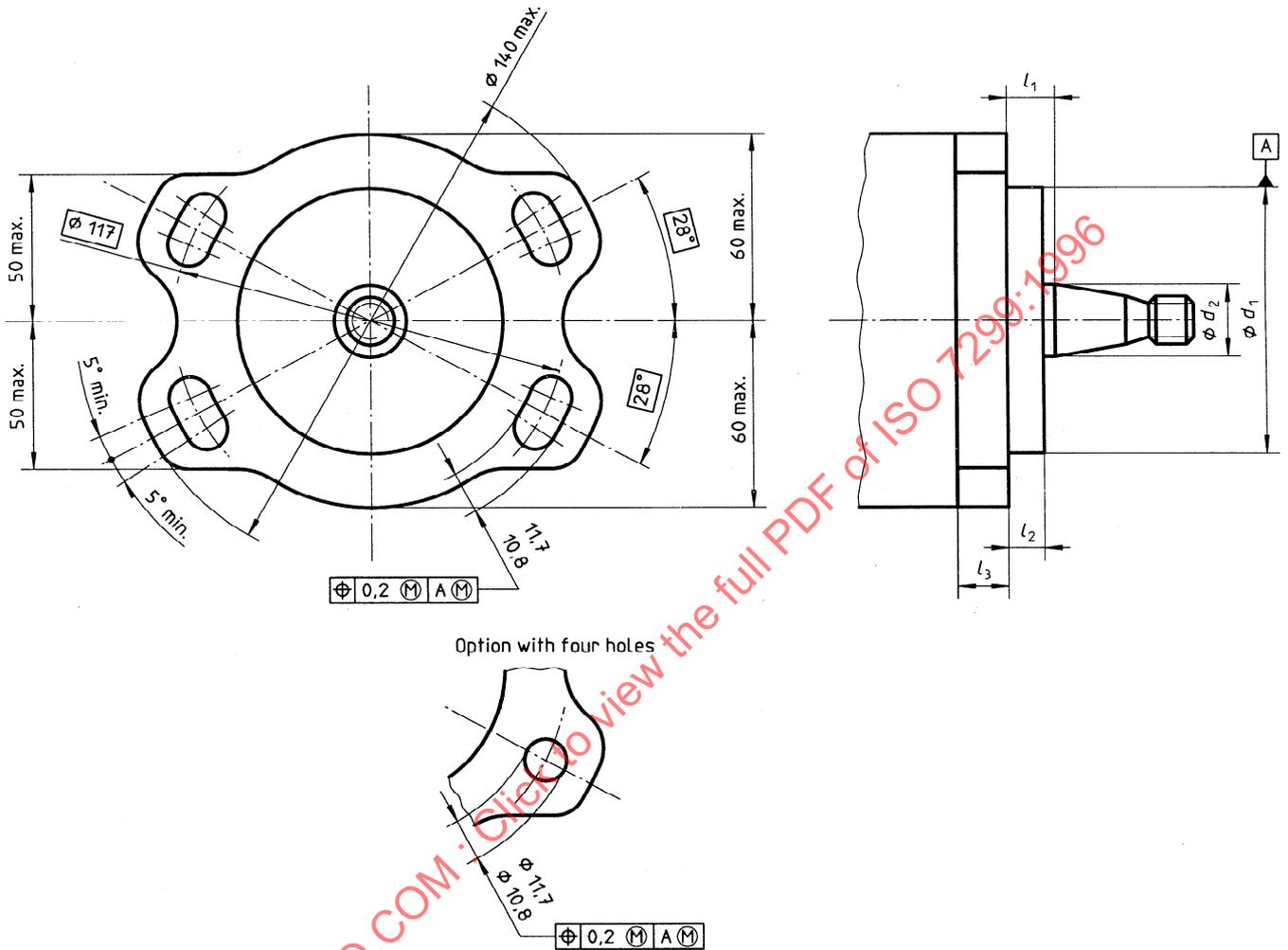


Figure 4 — Rotary and distributor fuel injection pumps — Type 9 end-mounting flange

Table 4

Dimensions in millimetres

| d_1 | d_2 | l_1 | l_2 | l_3 | |
|----------------|------------|-----------------|--------------|-------|------|
| | | | | min. | max. |
| g8 68 or 85 | nom. 25 | $\pm 0,5$ 26 | max. 24,5 | 15 | 18 |

Dimensions in millimetres

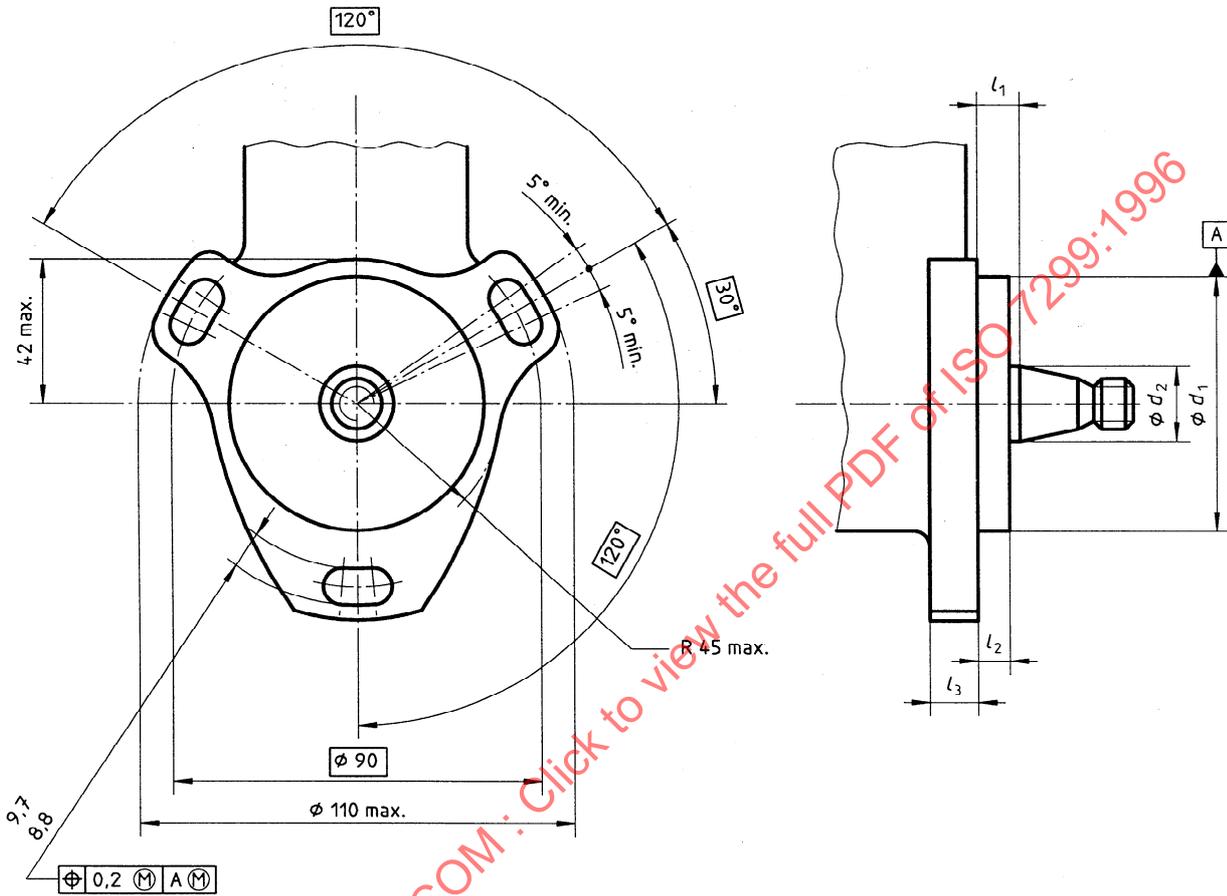


Figure 5 — In-line fuel injection pumps — Type 4 end-mounting flange

Table 5

Dimensions in millimetres

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

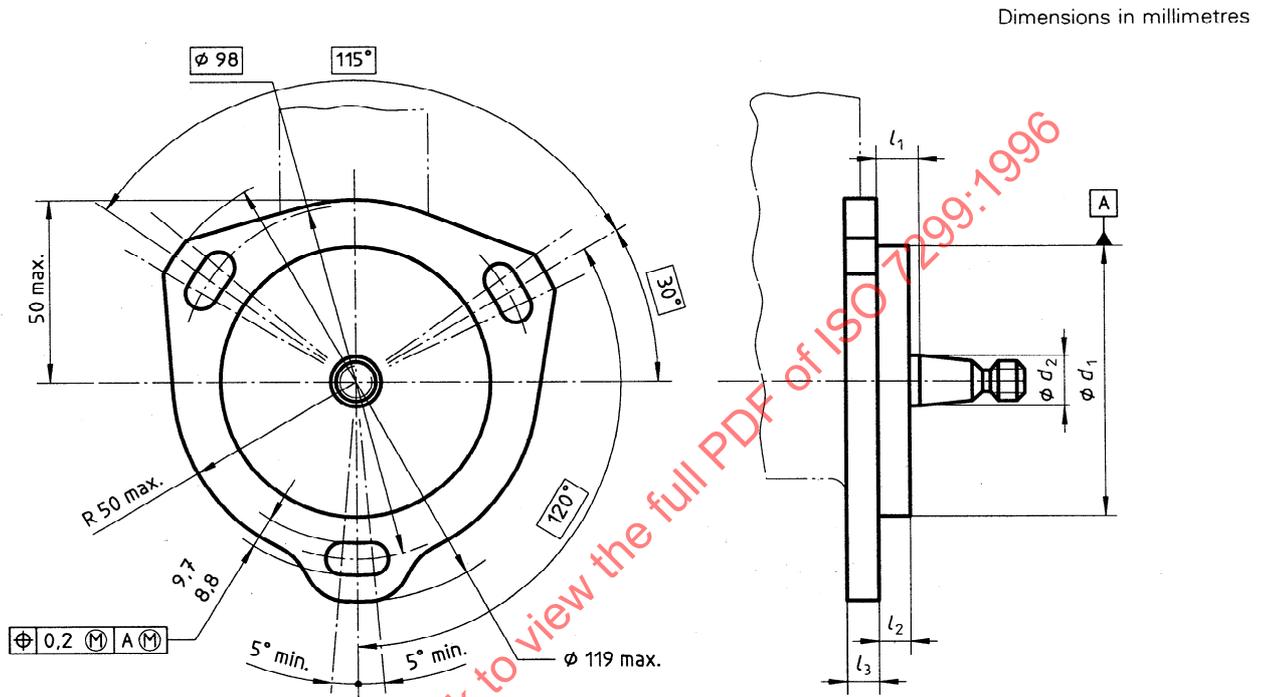


Figure 6 — In-line fuel injection pumps — Type 5 end-mounting flange

Table 6

Dimensions in millimetres

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

Dimensions in millimetres

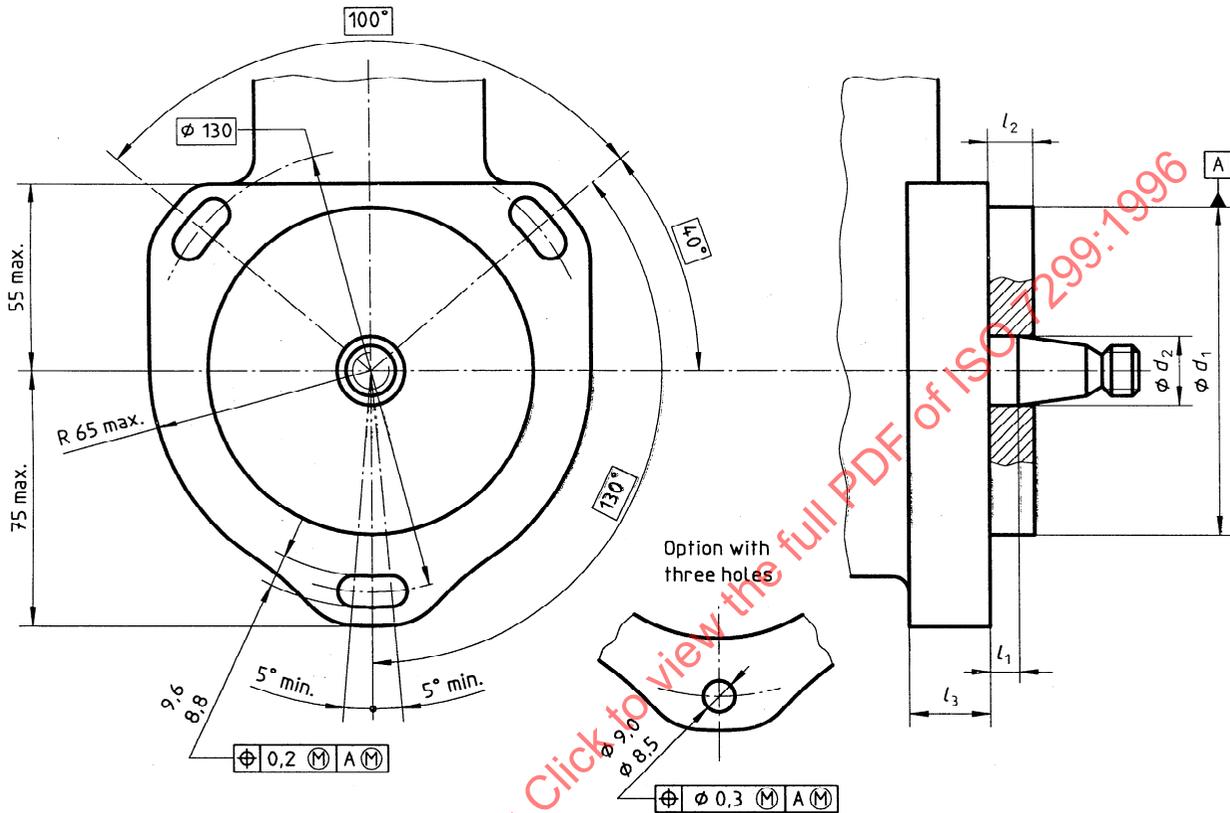


Figure 7 — In-line fuel injection pumps — Type 6 end-mounting flange

Table 7

Dimensions in millimetres

| d_1 g8 | d_2 nom. | l_1 ± 1 | l_2 max. | l_3 | |
|---------------|---------------|------------------|---------------|-------|------|
| | | | | min. | max. |
| 68, 97 or 112 | 20 or 22 | 4,5 | 7,5 | 17 | 18 |
| | | | | 24 | 26 |

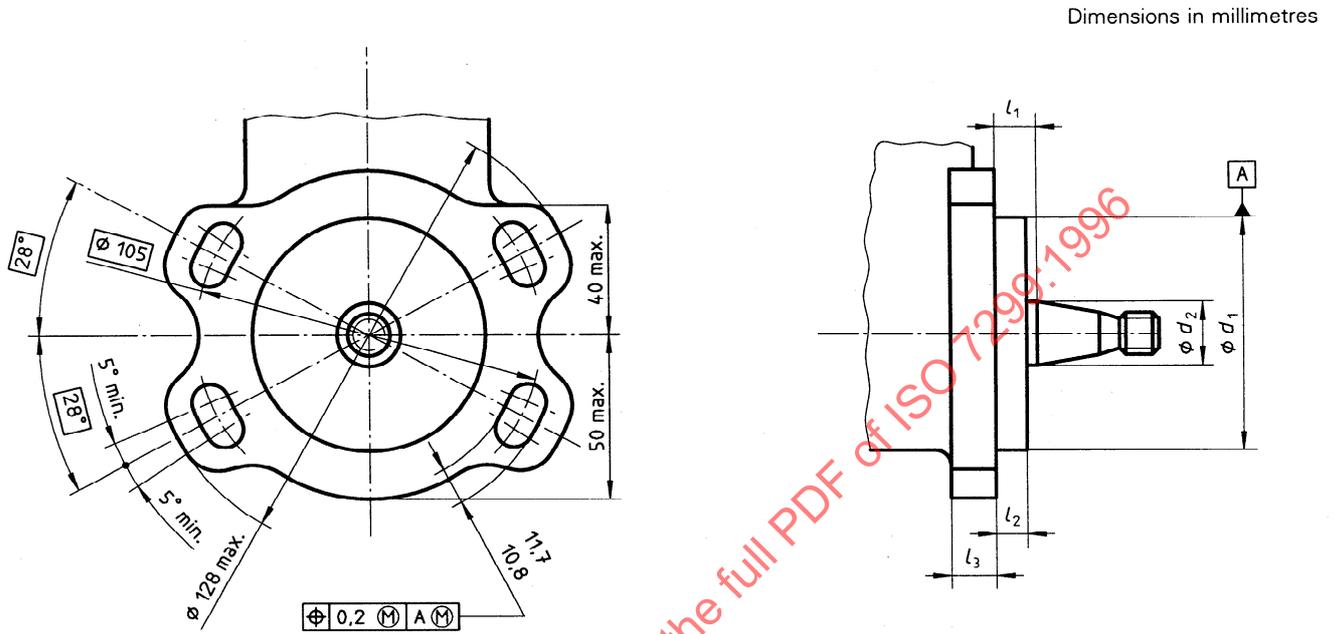
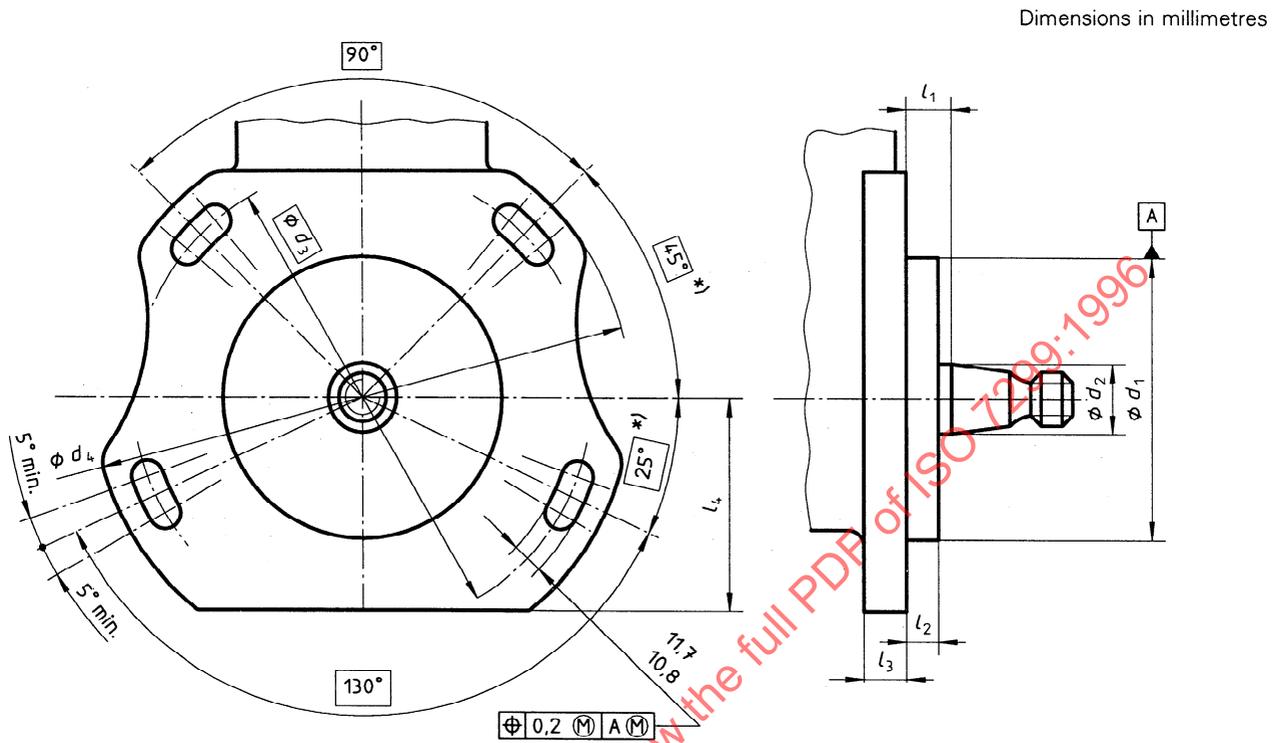


Figure 8 — In-line fuel injection pumps — Type 7 end-mounting flange

Table 8

Dimensions in millimetres

| d_1 g8 | d_2 nom. | l_1 $\pm 0,5$ | l_2 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 | | |



*) If it is required to mount a fixed pump, engine manufacturers are encouraged to position the engine studs at true (theoretically correct) angles of 40° above and 20° below the horizontal centreline.

Figure 9 — In-line fuel injection pumps — Type 8 end-mounting flange

Table 9

Dimensions in millimetres

| d_1 g8 | d_2 nom. | l_1 $\pm 0,5$ | l_2 max. | l_3 | | d_3 nom. | d_4 max. | l_4 max. |
|-------------|------------------------|--------------------|---------------|-------|------|---------------|---------------|---------------|
| | | | | min. | max. | | | |
| 95 or 107 | 20, 25, 30 or 35 | 9,5 | 8,2 | 17 | 20 | 130 | 156 | 62 |
| | | 13,5 | 12 or 20,5 | | | | | |
| | | 18,5 | 17 | | | | | |
| 115 | 35 or 40 ¹⁾ | 13,5 | 12 or 20,5 | | | 140 | 166 | 66 |

1) Not specified in ISO 6519.