Four cylinder in-line engine
4-stroke engine
n = 6500 1/min
Full load
Stroke bore ratio: 1.1

Relative eccentricity ε

$$\varepsilon = \frac{2e}{D - d}$$

e = Distance between centers of the bearing and shaft
D = Bearing diameter
d = Shaft diameter
$\varepsilon = 0$ Central shaft position
$\varepsilon = 1$ Contact of shaft and bearing

Displacement direction

Relative displacement

330° 360°
300°
270°
660° 690° 0° 30°
390°
420°
90°
450°
60°
630°
210°
240°
120°
480°
150°
180°
600°
510°
570° 540° ITDC

Relative to the bearing
(connecting-rod bearing)

1.0
0.8
0.6
0.4
0.2
0.0
0.2
0.4
0.6
0.8
1.0