

1:1 Differential Gearing



harmonic drive gearing

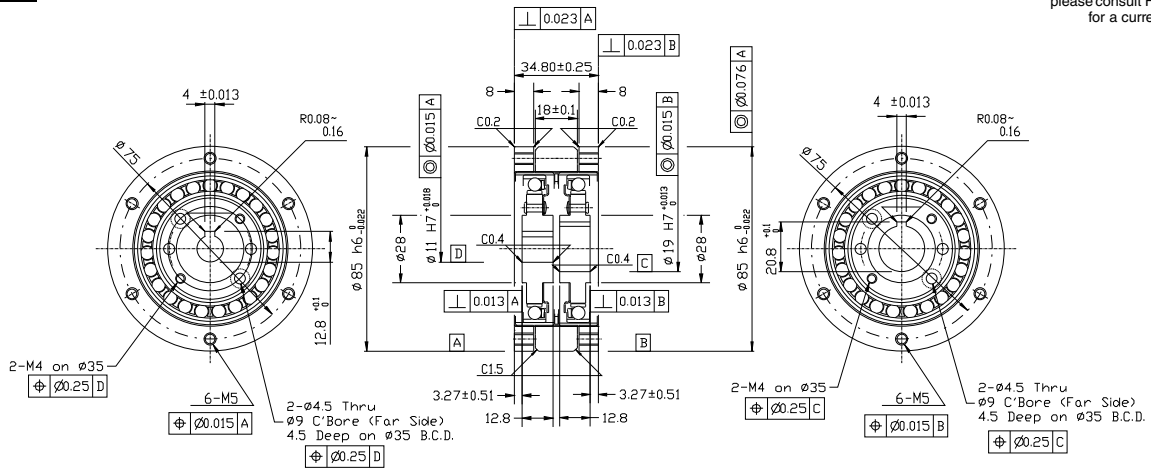
Precision Gearing & Motion Control

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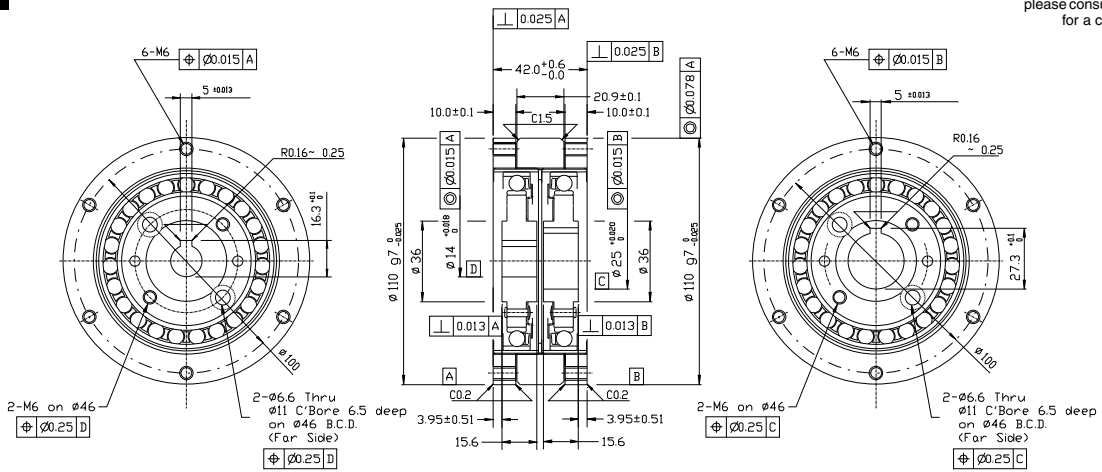
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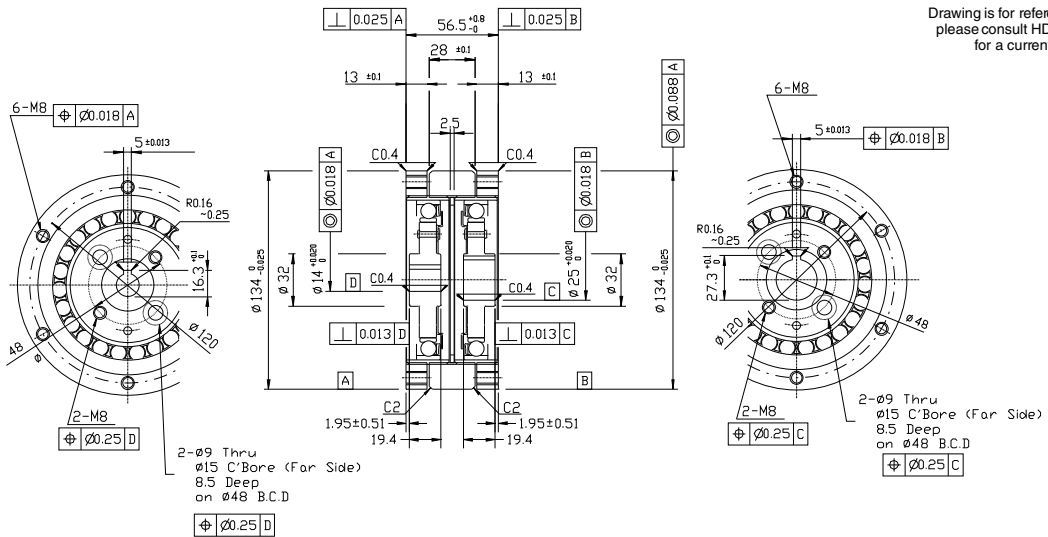
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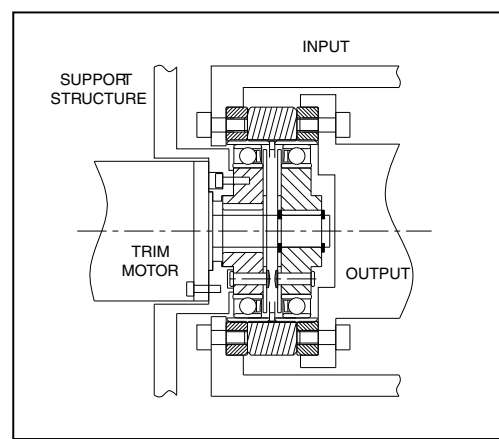
DESIGN CONCEPT

The sketch at the right shows a typical installation of the 1:1 components. This arrangement is similar to that within a roll drive mechanism. With the trim motor shaft stationary the input and output rotate with a gear ratio of 1:1. The relative phasing of the input and output can be changed dynamically by rotating the trim motor shaft.

The following relations can be used for phase adjustment:

$$\text{Speed: } N_{\text{output}} = N_{\text{input}} \pm \left[\frac{N_{\text{trim}}}{\text{Ratio} + 1} \right]$$

$$\text{Torque: } T_{\text{trim}} = \frac{T_{\text{input (or output)}}}{\text{Ratio} \times 0.5}$$



ORDERING CODE

Harmonic Drive Product Type	Size	Ratio	Backlash Option	Options						
1:1	20	80 100 128 160	BL6	Our technical team will be pleased to assist you with special options and their ordering code.						
Differential	25	80 100 120 160	BL12							
Transmission	32	78 100 131 157	BL60							
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HDUF	—	25	—	100	—	2	—	BL12	—	SP

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