

WP0263

Dodge® Quantis gear reducers: incline mounting overview

Dodge Customer/Order Engineering

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One of the selection requirements for ordering a Quantis reducer is to specify the mounting position. There are 6 standard mounting positions, seen below, that must be chosen before ordering to ensure the gearbox is properly lubricated with the right amount of oil. If the Quantis unit needs to be mounted at an angle with respect to any of the 6 standard mounting positions, then the oil level may need to be adjusted.

	A1	A2	A3	A4	A5	A6
ILH HB	B3	V6	B8	V5	B6	B7
ILH HF	B5	V3	B8-01	V1		
MSM MW	B6 B5	V6 V3	B6-02 B5-02	V5 V1	B3 B8 B5-01	B3-01 B8-01 B5-03
MSM MA	H-01	H-06	H-02	H-05	H-04	H-03
RHB BB	B3 B6-01	B6 B8-01	B8	B3-01 B6-02	V5 V5-01	V6 V6-01
RHB BF	B5-01 H-01	B5 H-04	B5-03 H-02	B5-02 H-03	V1 05	V1-01 H-06

Figure 1. Standard Mounting Positions A1-A6 for Quantis Reducers

Designating an Incline Mounting.

There are two different incline directions for Quantis, each designated by the Greek letters alpha (α) and beta (β). Below are the directions for all 3 Quantis reducers. Alpha rotates the reducer with respect to the input shaft. Beta's rotation is perpendicular to alpha's rotation.

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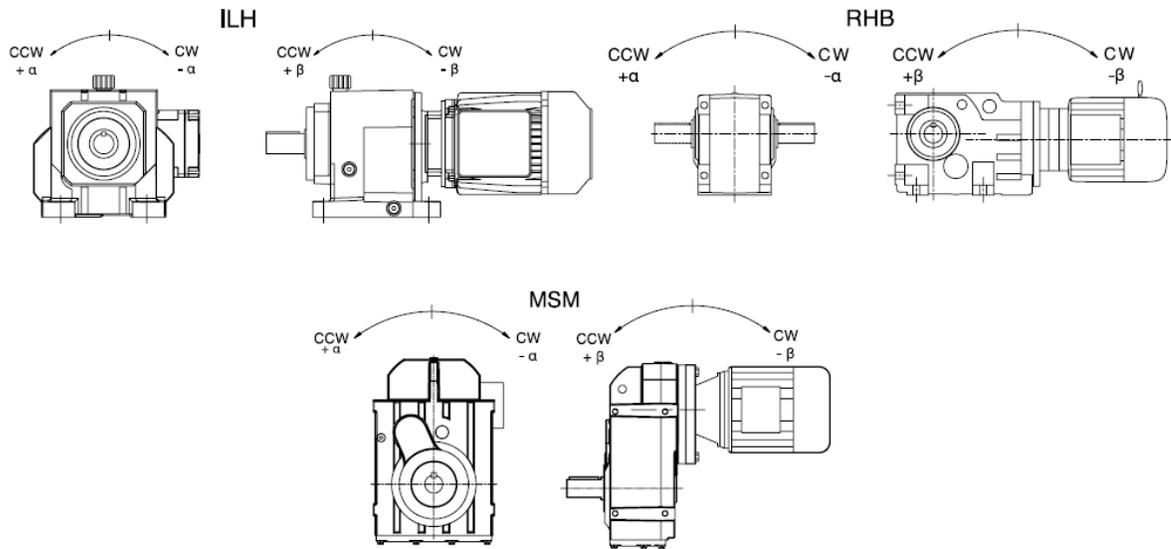


Figure 2. Alpha and Beta incline directions for ILH, RHB, and MSM

As shown in the above figure, the rotation of the incline is designated by a clockwise or counter clockwise direction when looking at the back end of the reducer for alpha, and the side of the reducer with the motor on the right side for beta. It is important to know the incline type and direction of rotation from one of the six standard mounting positions to ensure an accurate oil level can be determined.

Example for Designating an Incline Mounting.

The figure below is an example of a Quantis unit in an incline for an application.

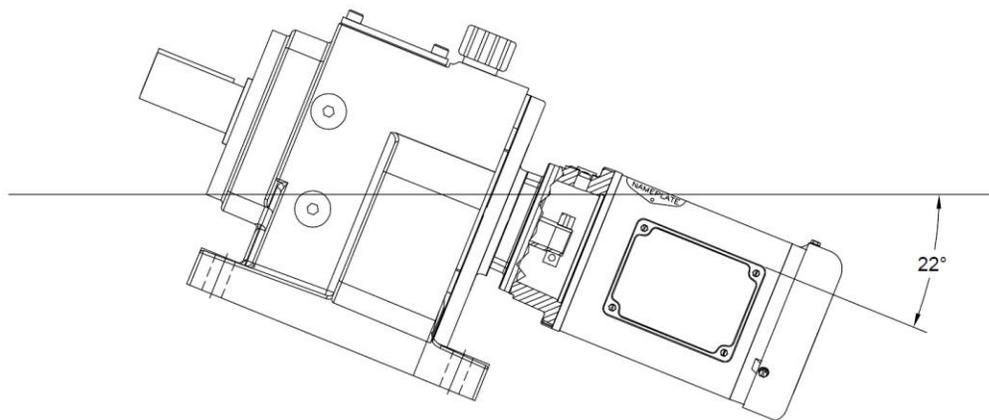


Figure 3. ILH Unit with an Incline Mount

The Quantis unit in figure 3 is an ILH unit at a 22° incline with the output shaft pointing upwards. Based on figure 2, this is a Beta incline rotated CW at 22° from the A1 mounting position. You could also designate this mounting as Beta incline rotated CCW at 68° from the A2 mounting position. Although this designation is correct, it is preferable to provide a designation with an incline up to 45° of its respected standard mounting position.

Three things are needed to provide a Quantis incline mount designation. The type of incline, the direction of rotation, and the angle the incline is with respect to one of the six standard mounting positions.

Adjusting Oil Level for an Incline Mounted Quantis

If the Quantis unit mounting needs to be inclined after it is ordered and shipped, then you will need to contact CO Engineering. CO Engineering can provide instructions on how to properly adjust the oil level. Since there are many different incline possibilities, each one will need to be looked at on an individual basis.

All Quantis reducers, except for size 38 reducers, will have work instructions on adjusting the oil level by either filling to a specific plug, using a pipe extension on a plug and filling to the top of the pipe, or to use another mounting position with a different oil quantity. Since size 38 reducers have only one fill/drain plug, a specific quantity will need to be provided from CO Engineering.

One thing to note, it is not recommended that you switch the mounting position to another standard position for an incline mount just because it has more oil. For example, a Quantis quote could have an incline from A1, and a thought may be to switch the mounting position to A5 or A6 because the oil quantity is higher. This may be the case for very few incline mounted Quantis, but most will need to be filled to a specific plug or pipe length. Another common mistake that can be made is to change the mounting position on a Quantis quote to A4, or to fill the gearbox completely with oil out in the field. The logic for this is, with A4 oil level, the gearbox is almost full of oil and it's guaranteed the gears will be properly lubricated. There are several problems that could arise from this. You may not be able to completely fill the box based on where the plugs are positioned on the box relative to the incline mounting position. Another problem is you could get oil in the breather, which prevents it from ventilating the box and will cause a leak. One more problem, based on how the unit is mounted, you could flood the input seal which will inevitably cause a leak. It is always advisable to contact CO Engineering for their recommendation on how to adjust the oil level.

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