WORM GEARS

To Get	Having	Rule	Fromula
Linear pitch (circular axial)	Lead & number of threads in worm	Divide the lead by the no. of threads in worm	Px=L/Nw
Normal diametral pitch	Axial diametral pitch & worm gear helix angle	Divide the axial diametral pitch by the cosine of the worm helix angle	Pnd=Pxd/Cos.Ψ
Axial diametral pitch	Normal diametral pitch & worm helix angle	Multiply normal diametral pitch by the cosine of the worm helix angle	Pxd=PndCos.Ψ
	No. of teeth in wormwheel& pitch diameter of wormwheel	Multiply the no. of teeth in the wormwheel by pitch diameter of the wormwheel	Pxd=NG/D
Helix angle of worm	Worm pitch diameter & lead	Multiply the worm pitch kiameter by π, & divide the product by the lead. The quotient is the co-tangent of the helix angle of the worm	CoTanΨ=π•Dw/L
	Normal diametral pitch & axial diametral pitch	Divide the axial diametral pitch by the normal diametral pitch	cosΨ=Pxd/Pnd
Pitch diameter of worm	Pitch diameter of wormwheel& center distance	Subtract the pitch diameter of the wormwheel from twice the center distance	Dw=2C-DG
	Outside diameter & addendum	Subtract twice the addendum from the outside diameter	Dw=D-2α
Pitch diameter of wormwheel	Linear pitch & number of teeth	Multiply the no. of teeth in the wheel by the linear pitch of the worm, then divide by π	DG-NG•PG/π
	Pitch diameter of worm & center distance	Divide the worm pitch diameter by 2 minus the center distance, multiplied by 2	DG=C•2-Dw
Center distance between worm &wormwheel	Pitch diameter of worm &wormwheel	Add pitch diameter of worm &wormwheel, then divide the sum by 2	C=Dwt•DG/2
Addendum of worm tooth	Linear pitch & number of teeth	Multiply the pitch by 0.318	α=.3183•Px
Whole depth of worm tooth	Linear pitch & number of teeth	Multiply linear pitch by 0.6866	W=0.6866•P

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Bottom diameter of worm	Whole depth and O.D.	Subtract twice the whole depth of tooth from the outside diameter	$B=0-2(WD)$
End width of thread tool	Linear pitch & number of teeth	Multiply the linear pitch by .31	$T=0.31 \cdot P$
Throat diameter of worm wheel	Wormwheel P.D. and worm addendum	add twice the addendum of the worm tooth to the pitch diameter of the wormwheel	$0"N=D \cdot 2S$
Radius of worm wheel throat	Worm O.D. and addendum	Subtract the addendum of the worm tooth from half the outside diameter of the worm	$U=0/2-2(ADD)$
Outside diameter of worm	Pitch diameter and addendum	Add together the pitch diameter and two times and addendum	$0=D_1+2(ADD)$
Diameter of worm wheel to sharp corners	Radius of curvature face angle and throat diameter	Multiply the radius curvature of the wormwheel throat by the cosine of half the face angle. Subtract this quantity from the radius of curvature, multiply the remainder by 2. Then add the product to the worm wheel throat diameter	$0=2u-ux \cos A+01'$
Wormwheel helix angle	worm lead and circumference of the pitch circle of worm	Divide the lead of the worm by the circumference fo the pitch circle. The result will be the tangent of the angle	$TAN (HA)=L/D_1$
Lead of worm	Linear pitch and number of threads in worm	Multiply the linear pitch by the number of threads in worm	$L=Px \cdot Nw$
Worm PD	Lead and helix angle of worm	Divide the lead of worm by the tangent of the helix angle and then divide by π	$D^w=(L/\tan\Psi)/\pi$
Lead of worm	Worm PD and helix angle of worm	Multiply the worm PD by π then multiply by the tangent of the helix angle	$L=D^w \cdot \pi Tan\Psi$
No. of threads in worm	Lead and axial circular pitch	Divide the lead by the axial circular pitch	$N^w=L/P_x$
	No. of teeth in wormwheel and ratio	Divide the no. of teeth in the wormwheel by the ratio	$N^w=N_G/mG$
No of teeth in wormwheel	Ratio and no. of threads in wheel	Multiply the no. of teeth in the worm by ratio	$N_G=mG \cdot Nw$
Ratio	No. of teeth in wormwheel and number of threads in worm	Divide the no. of teeth in the wormwheel by the no. of teeth in the worm	$mG=NG/NW$

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