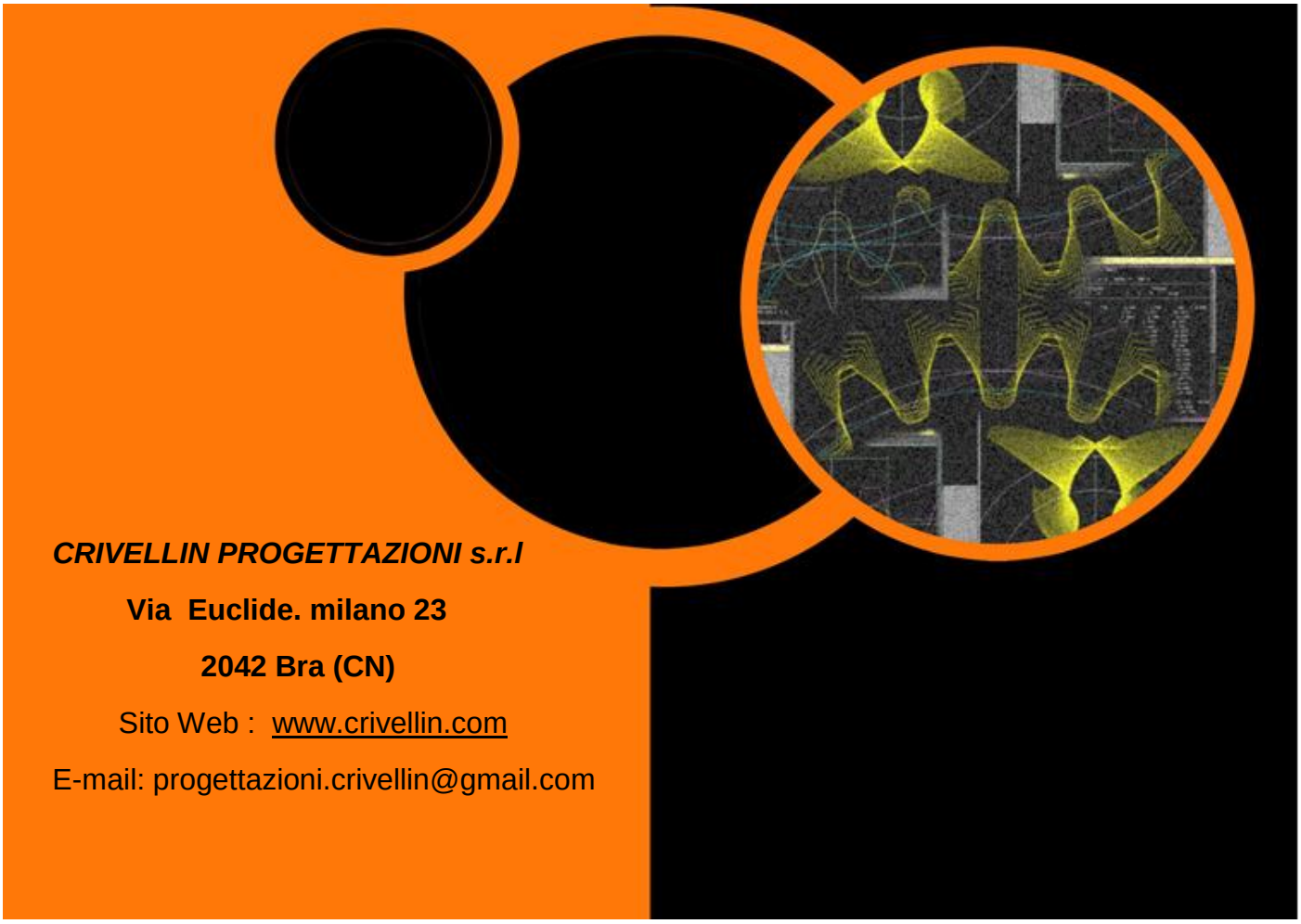

CRIVELLIN PROGETTAZIONI s.r.l

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E-mail: progettazioni.crivellin@gmail.com

User manual programs:

- GEAR-1 (Cylindrical gear pair)
- GEAR-1 INTERNI (Cylindrical gear pair 1 internal)
- GEAR-1 SINGOLO (Arbitrary single gear)

Index

Presentation

The program calculates the geometric data of a pair of cylindrical gears with parallel axes

with toothed spur or helical.

The program "Gear-1" is designed for gear manufacturers and technical design offices.

It can then submit the calculation menu that does not affect the manufacturer of gears and vice versa.

The data recorded by "Gear-1" can be read by the "Differential" program (done for gear manufacturers) that takes care of calculating a set of four gears for the differential hobbing or grinding etc.

The peculiar characteristic of the program is to be simple to use, but to give all the results that are needed.

Another important feature is to trace in UNEQUIVOCALLY the tooth profile that is generated by the generating rack.

Consequently, it is like saying that simulates exactly the dentition process, eliminating the doubts of the manufacturer when it is in hand an unclear or poorly dimensioned drawing.

Before build a gear and risk of having to redo, the pro-gramme will make you see the real profile that will be executed on the hobbing machine.

Program capacity:

Normal module: 0.1 to 100

Number of Teeth: 2 to 4000

Pressure angle: 10 ° to 45 °

Helix angle: 0 to 60 °

Corrections on the radius Xm:

max: + (2 XMN)

min: you have to set it is checked by the program.

If the value is so low as not to obtain a pressure angle of acceptable operation, it is signaled and is not accepted.

Possibilities of the program

- The program calculates:
- The geometric data
- Wildhaber measure
- Pins measure
- Circular tooth thickness, chordal of any diameter
- Pins measure of rack
- Helix Pitch
- Base diameter, evolving helpful start, active profile, etc.

The program displays:

- The rack profile generator
- The profile of the teeth
- The profile of the teeth of the pinion meshed with the rack-generating or normal
- The profile of the teeth of the wheel meshing with the rack or generating normal
- The profile of the pinion teeth engaged with those of the wheel
- A coordinate table (with 45 points) of the tooth or of the tooth space

The program performs the animation and zooming:

- The profile of the teeth of the sprocket
- The profile of the gear teeth
- The profile of the teeth of the pinion meshed with the rack-generating or normal
- The profile of the teeth of the wheel meshing with the rack or generating normal
- The profile of the pinion teeth engaged with those of the wheel

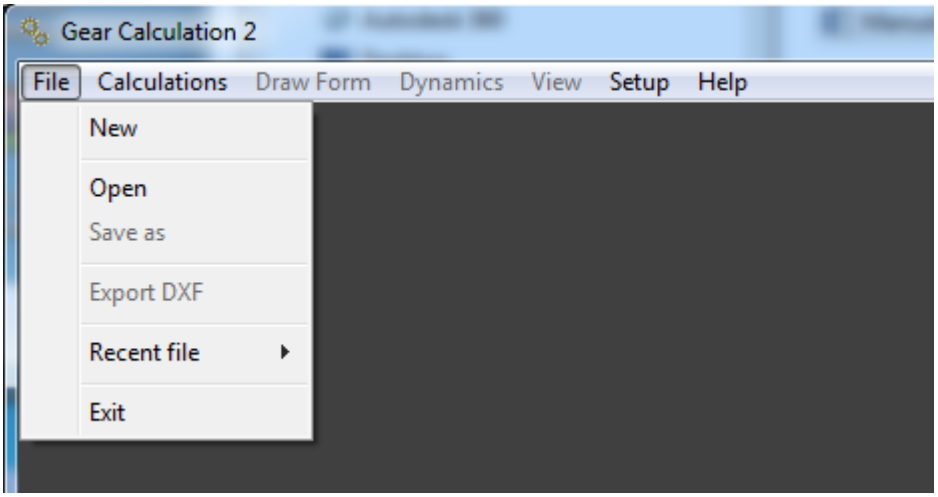
The program prints with scale on demand:

- The rack profile generator
- The profile of the teeth of the sprocket
- The profile of the gear teeth
- The profile of the teeth of the pinion meshed with the rack-generating or normal
- The profile of the teeth of the wheel meshing with the rack or generating normal
- The profile of the pinion teeth engaged with one of the wheel
- A table of coordinates (with about 45 points) of the tooth or of the compartment profile
- Export a DXF file of the tooth profile for the use of CAD systems
- All calculated geometric data

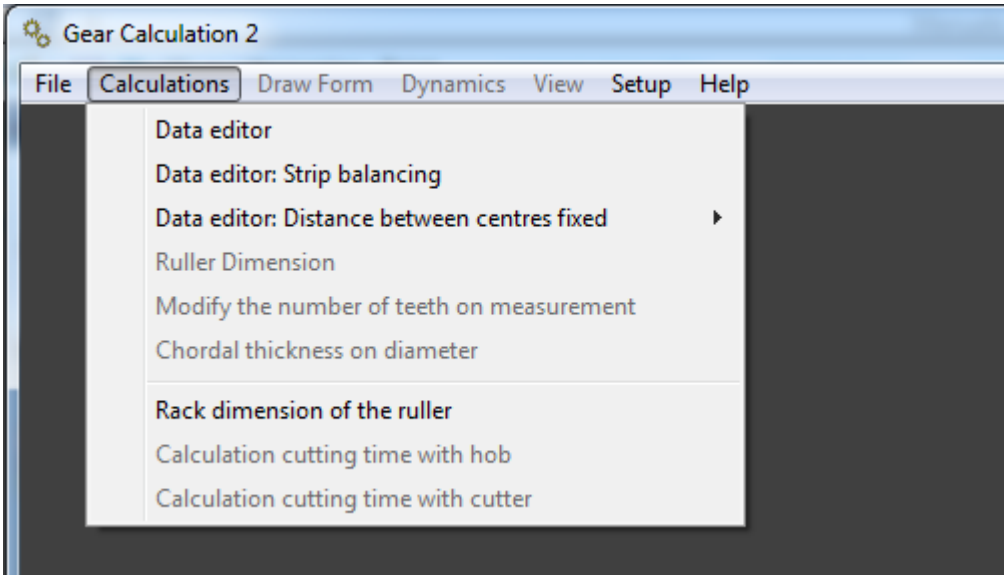
The program save:

- The main data and when recalculates read them from start
- For each type of calculation: A file with all the data in text format

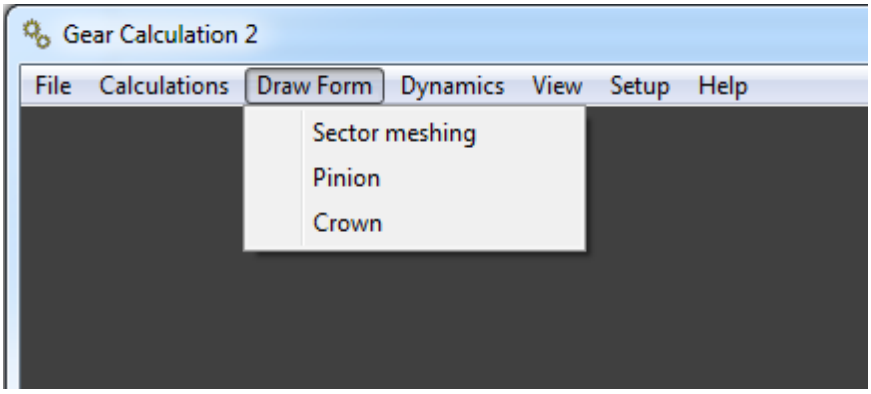
Menu File



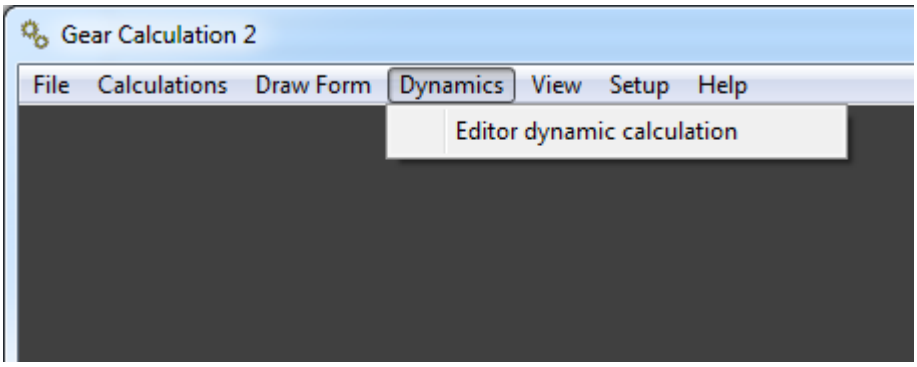
Menu Calculation



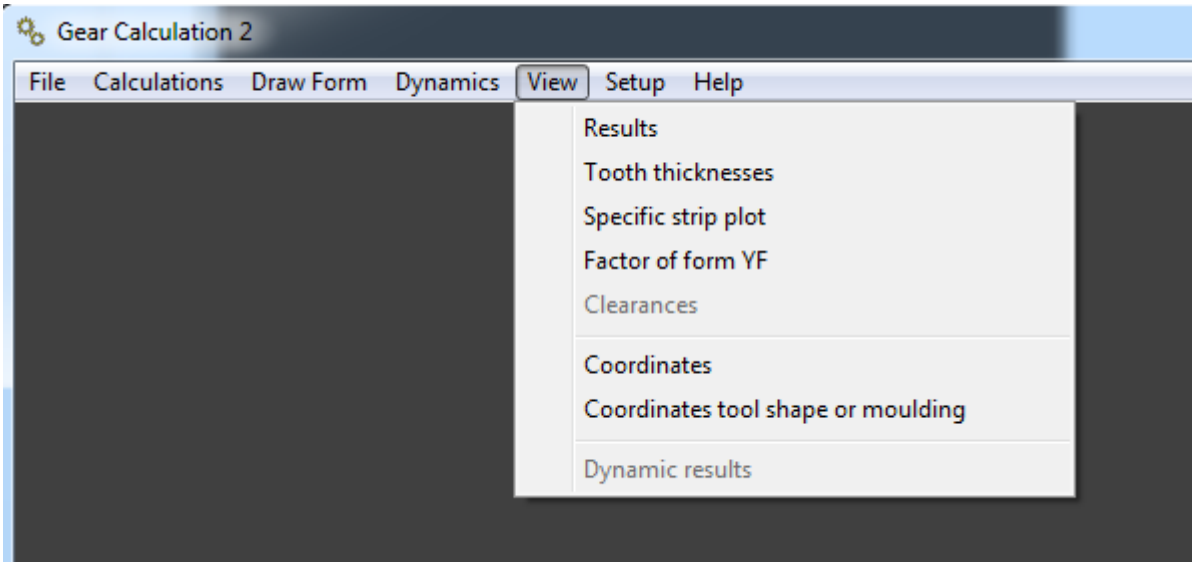
Menu Draw Form



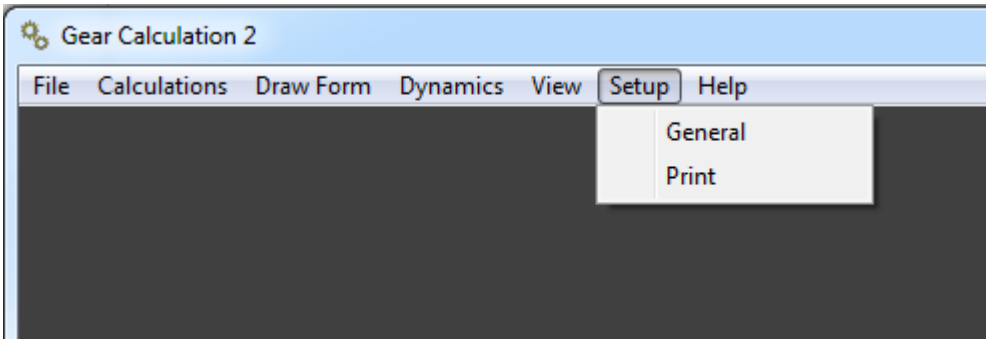
Menu Dynamics



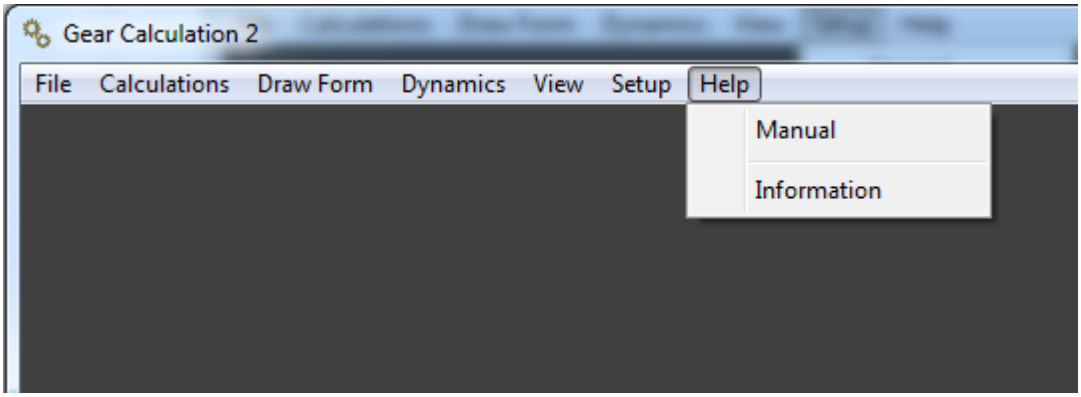
Menu View



Menu setup



Menu Help



Menu Calculations: Data editor

Main data input screen (fig.1)

Insert the normal value of the module and press the "tab" key.

On the upper fields will appear the following default values:

Pressure angle. .20 ° addendum tool 1.25xMn dedendum tool 1.25xMn

radius 0.25xMn

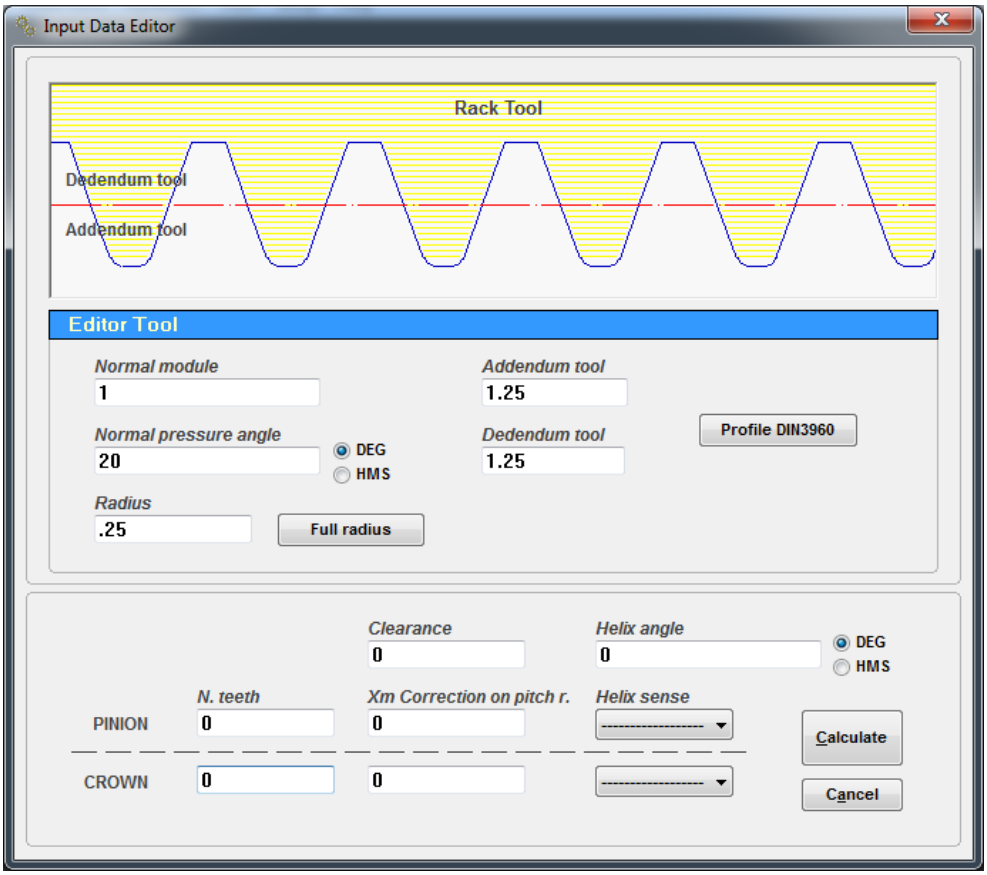


Fig.1

You can change the contact angle, the addendum tool, the tool dedendum, the fillet radius. (Fig.2)

Each time you press the "tab" on the rack generating drawing is updated.

With this method you can design your gears to "High addendum" or as better believe is an optimal profile.

With the "full radius" button profile with full beam is drawn.

With the "DIN 3960" button the entire profile is reset according to DIN to the default value, assuming all the values depending on the module.

By selecting the "G" button you can enter the angle of pressure values to degrees decimal.

Selecting the "GPS" button you can enter the angle of the Angle pressure side in degrees, minutes, seconds.

The same thing applies to the underlying field direction of the helix.

It is advisable to place the data in degrees decimal because the calculation is more accurate.

(With degrees, minutes, seconds, they are obliged to do a rounding to seconds)

And 'possible to insert a value of clearance.

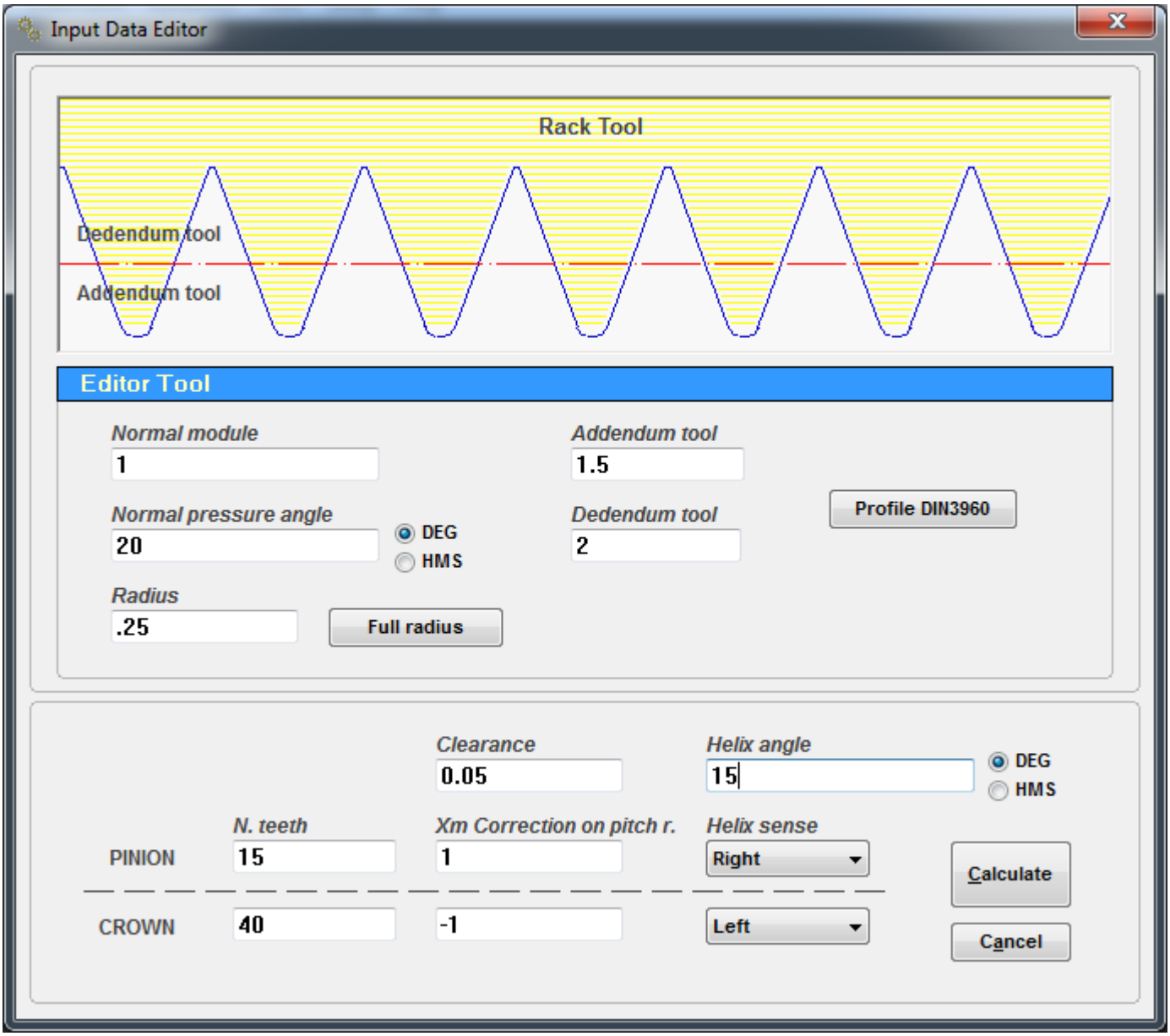


Fig. 2

Fill in the fields below: (Figure 3) helix angle (if it exists).

N ° of teeth on the pinion of the gear teeth.

By pressing the arrow for the field "propeller Sense" to choose whether the right or left stranded.

For the first wheel, the field of the second will be filled automatically.

"Calculate" push the button.

It is plotted the tooth profile, the wheel 1 and wheel 2, for generation.

Fig.3

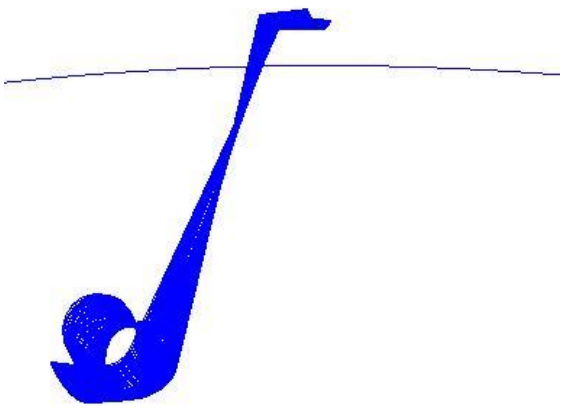


Fig.5

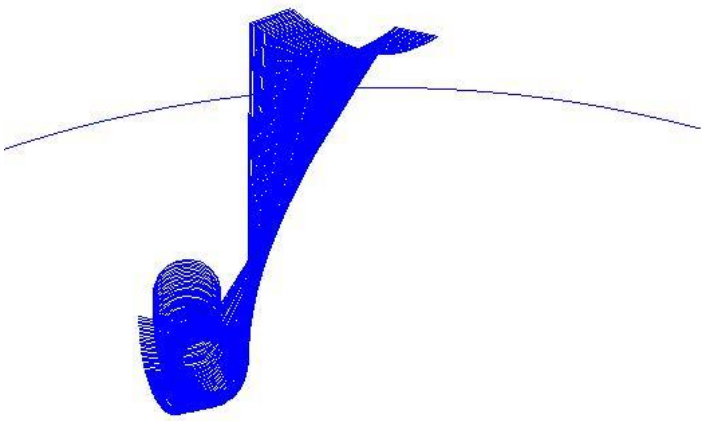


Fig.4

The results screen (Fig. 6)

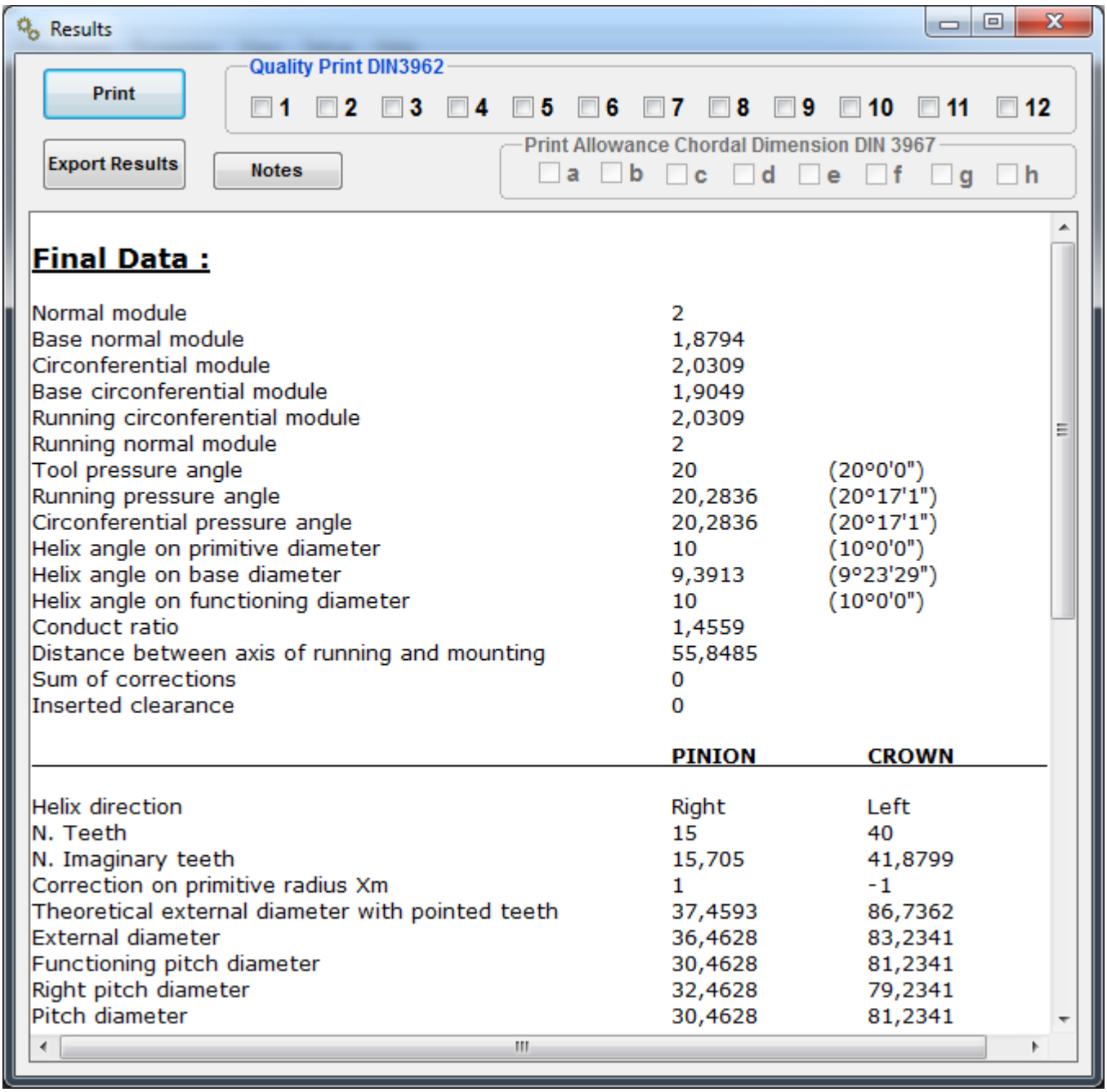
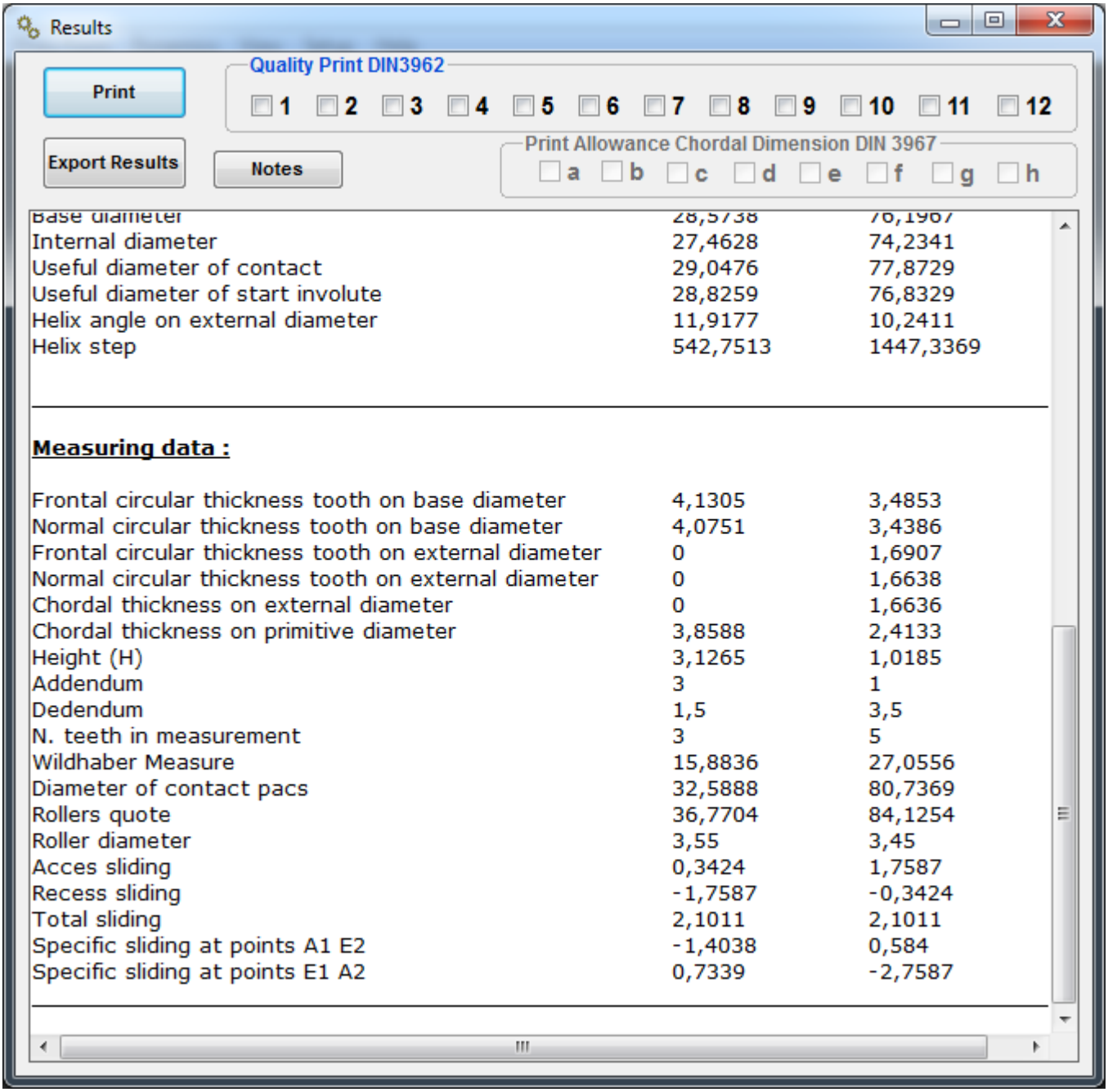


Fig. 6

Press the "PRINT" to print the data, or "Export Results" button for to get a text file. (Figure 7)



Base diameter	28,5738	76,1967
Internal diameter	27,4628	74,2341
Useful diameter of contact	29,0476	77,8729
Useful diameter of start involute	28,8259	76,8329
Helix angle on external diameter	11,9177	10,2411
Helix step	542,7513	1447,3369

Measuring data :

Frontal circular thickness tooth on base diameter	4,1305	3,4853
Normal circular thickness tooth on base diameter	4,0751	3,4386
Frontal circular thickness tooth on external diameter	0	1,6907
Normal circular thickness tooth on external diameter	0	1,6638
Chordal thickness on external diameter	0	1,6636
Chordal thickness on primitive diameter	3,8588	2,4133
Height (H)	3,1265	1,0185
Addendum	3	1
Dedendum	1,5	3,5
N. teeth in measurement	3	5
Wildhaber Measure	15,8836	27,0556
Diameter of contact pacs	32,5888	80,7369
Rollers quote	36,7704	84,1254
Roller diameter	3,55	3,45
Acces sliding	0,3424	1,7587
Recess sliding	-1,7587	-0,3424
Total sliding	2,1011	2,1011
Specific sliding at points A1 E2	-1,4038	0,584
Specific sliding at points E1 A2	0,7339	-2,7587

Fig. 7

Calculations menu: Editor data sliding balancing input

If you want to optimize the creep, in this case, the program acts on Xm correction on the pitch radius, select the "Calculations" menu and select "Editor data editor: strip balancing". The program proposes the data previously entered. (fig.8)

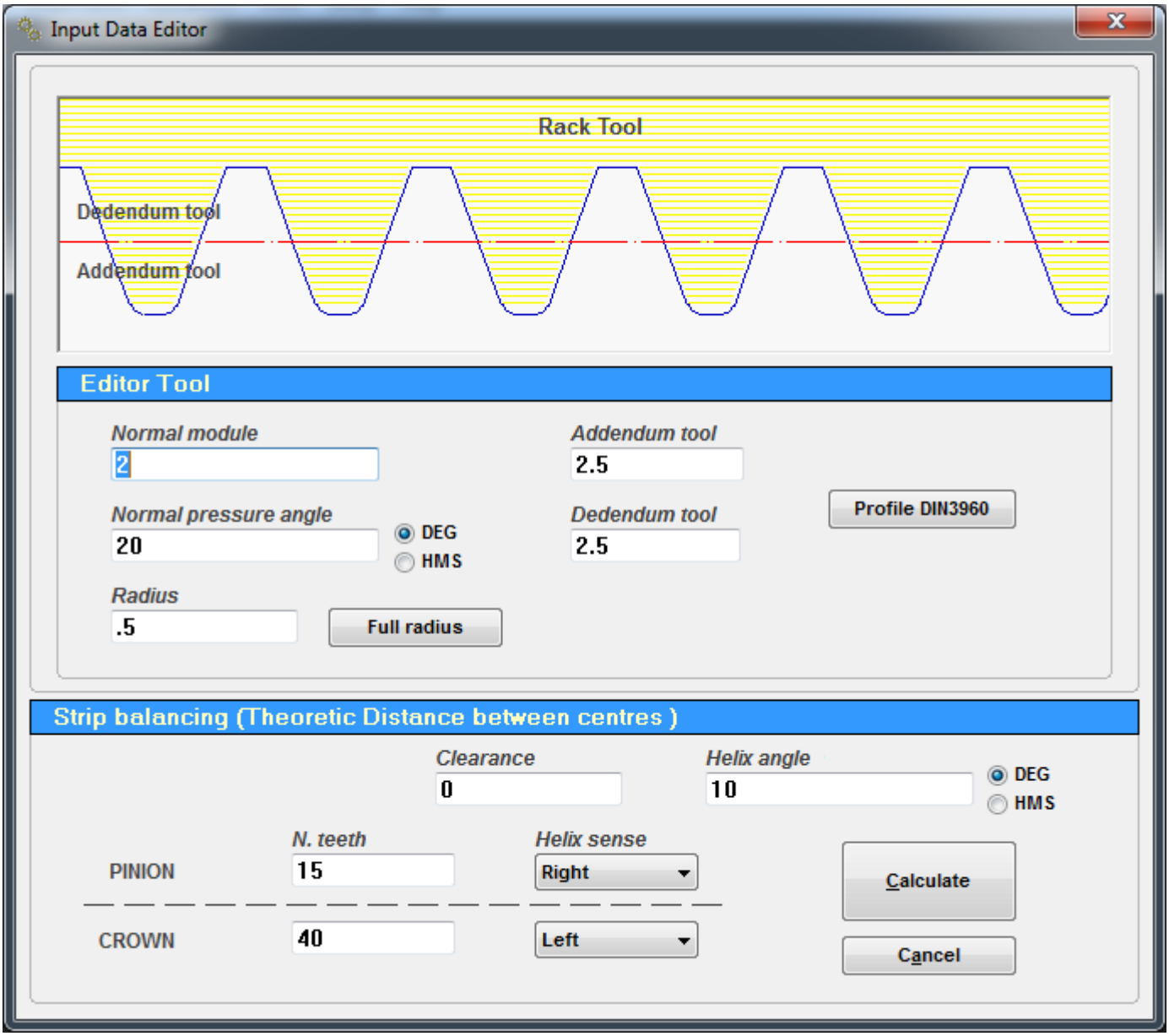
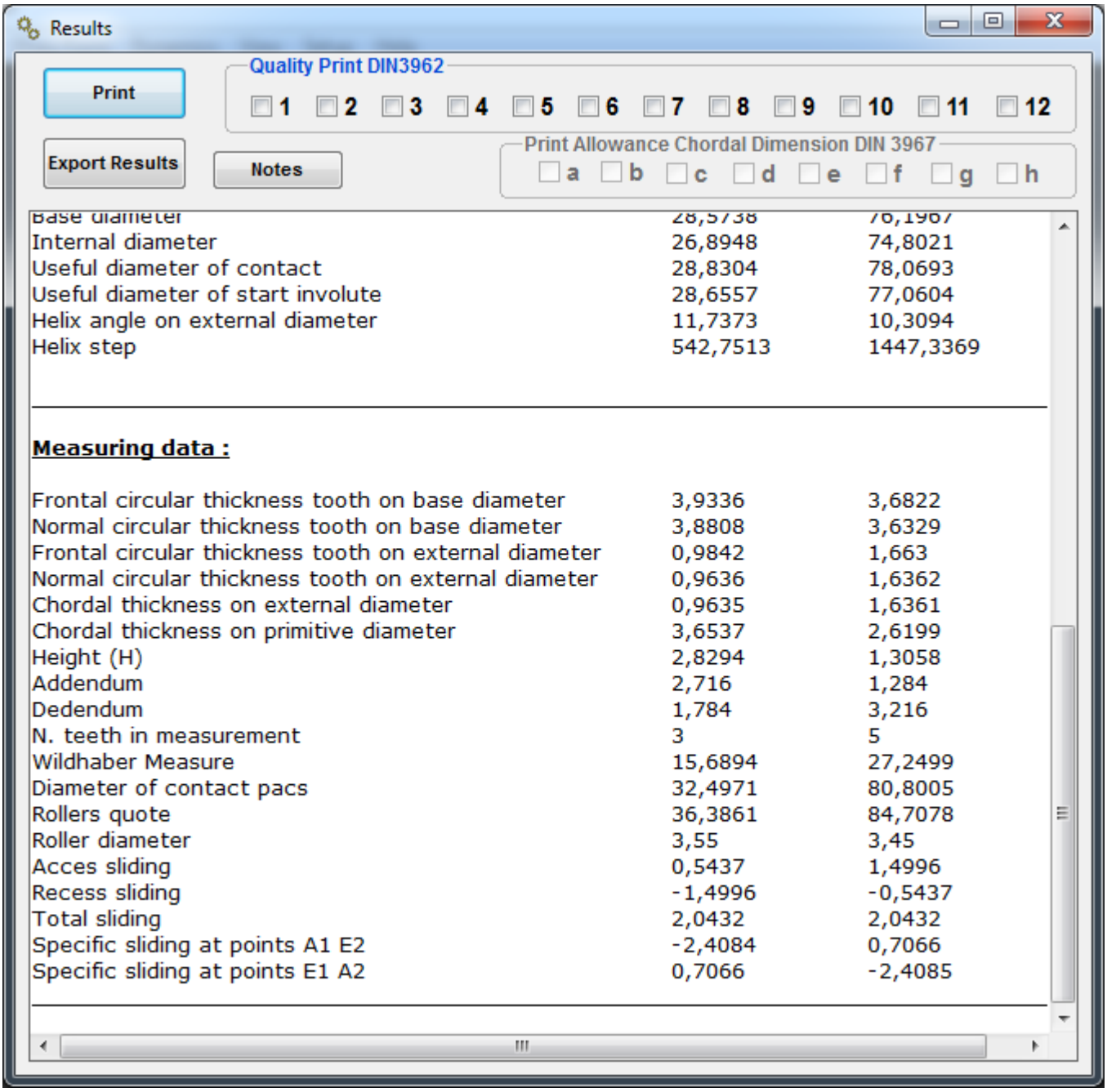


Fig. 8

Calculations menu: sliding balancing Results

Below (Figure 9) the results after the execution of sliding balancing



Base diameter	28,5738	76,1967
Internal diameter	26,8948	74,8021
Useful diameter of contact	28,8304	78,0693
Useful diameter of start involute	28,6557	77,0604
Helix angle on external diameter	11,7373	10,3094
Helix step	542,7513	1447,3369

Measuring data :

Frontal circular thickness tooth on base diameter	3,9336	3,6822
Normal circular thickness tooth on base diameter	3,8808	3,6329
Frontal circular thickness tooth on external diameter	0,9842	1,663
Normal circular thickness tooth on external diameter	0,9636	1,6362
Chordal thickness on external diameter	0,9635	1,6361
Chordal thickness on primitive diameter	3,6537	2,6199
Height (H)	2,8294	1,3058
Addendum	2,716	1,284
Dedendum	1,784	3,216
N. teeth in measurement	3	5
Wildhaber Measure	15,6894	27,2499
Diameter of contact pacs	32,4971	80,8005
Rollers quote	36,3861	84,7078
Roller diameter	3,55	3,45
Acces sliding	0,5437	1,4996
Recess sliding	-1,4996	-0,5437
Total sliding	2,0432	2,0432
Specific sliding at points A1 E2	-2,4084	0,7066
Specific sliding at points E1 A2	0,7066	-2,4085

Fig. 9

Calculations menu: Calculation pins measurement

If you want to calculate the roll rate, select the "Calculations" menu and select "calculates pins measurement ."

This dialog box appears: (Figure 10)

The program calculates the roller portion and performs the calculation by choosing a nearest pin diameter as possible to the theoretical one.

Changing the diameter of the pin according to your needs and press the "Calculate" button.

The program recalculates the data with the new pin.

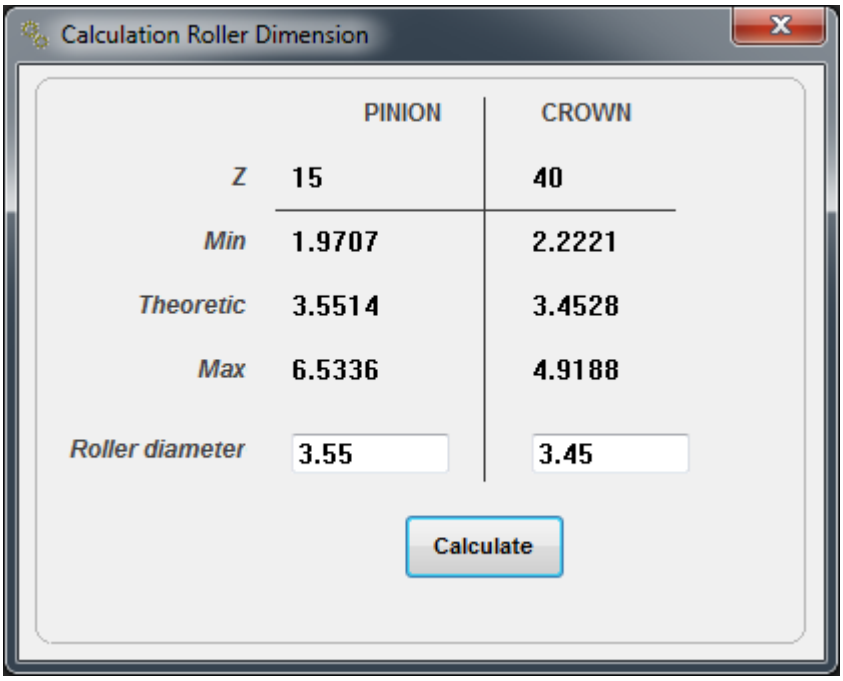
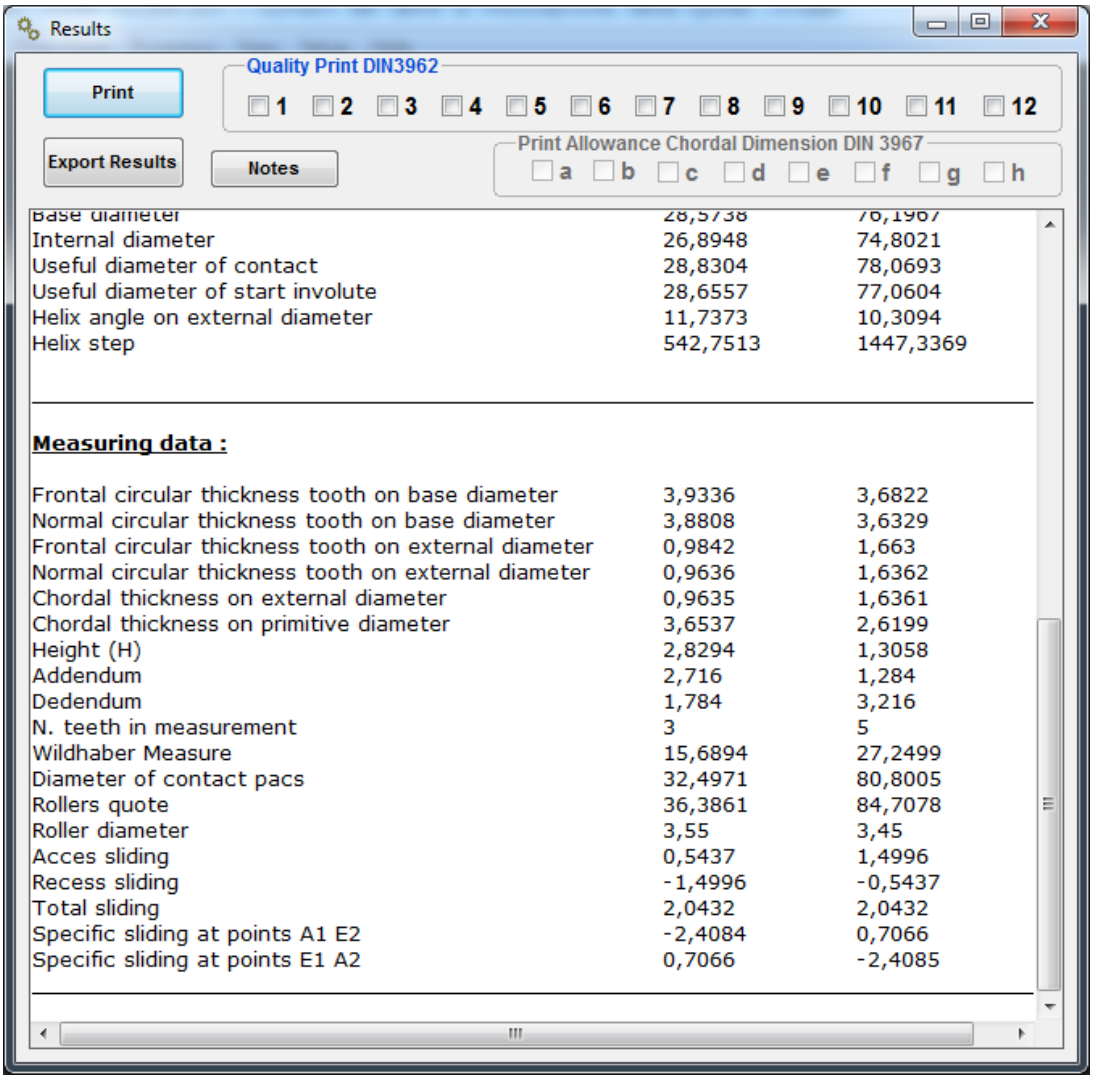


Fig. 10

Calculations menu: Modify the number of teeth on span measurement (fig.11)
If you want to change the number of teeth on the span measure,(Wildhaber):

Select the "Calculate" " Modify the number of teeth on measurement" menu, the show window: (Figure 12))



Base diameter	28,5738	76,1967
Internal diameter	26,8948	74,8021
Useful diameter of contact	28,8304	78,0693
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Helix angle on external diameter	11,7373	10,3094
Helix step	542,7513	1447,3369

Measuring data :

Frontal circular thickness tooth on base diameter	3,9336	3,6822
Normal circular thickness tooth on base diameter	3,8808	3,6329
Frontal circular thickness tooth on external diameter	0,9842	1,663
Normal circular thickness tooth on external diameter	0,9636	1,6362
Chordal thickness on external diameter	0,9635	1,6361
Chordal thickness on primitive diameter	3,6537	2,6199
Height (H)	2,8294	1,3058
Addendum	2,716	1,284
Dedendum	1,784	3,216
N. teeth in measurement	3	5
Wildhaber Measure	15,6894	27,2499
Diameter of contact pacs	32,4971	80,8005
Rollers quote	36,3861	84,7078
Roller diameter	3,55	3,45
Acces sliding	0,5437	1,4996
Recess sliding	-1,4996	-0,5437
Total sliding	2,0432	2,0432
Specific sliding at points A1 E2	-2,4084	0,7066
Specific sliding at points E1 A2	0,7066	-2,4085

Fig.11

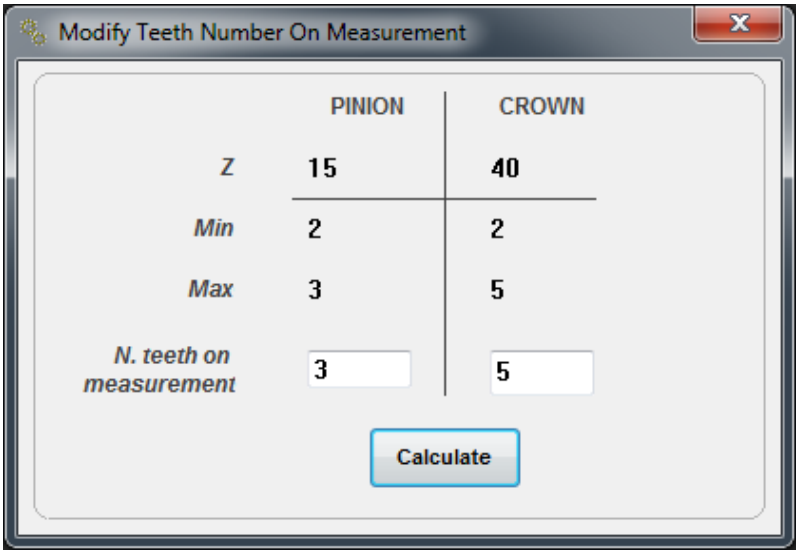


Fig. 12

Calculations menu: wheel chordal thickness of D =

If you want to know the chordal thickness and height measuring the caliber double vernier of any diameter:

Select the "Calculations" menu and select "Chordal thickness on diameter".

This shows this window: (Figure 13)

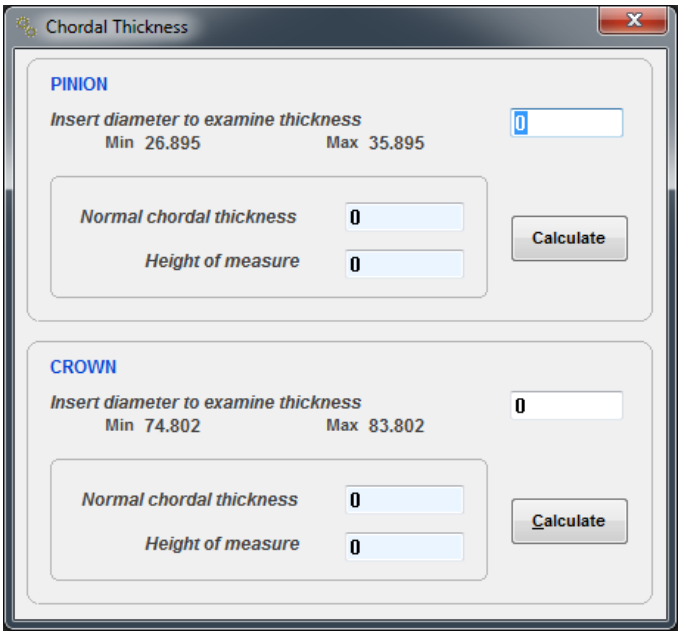


Fig. 13

It is calculated by the Chordal thickness and the Chordal height measurement: (Fig.14)

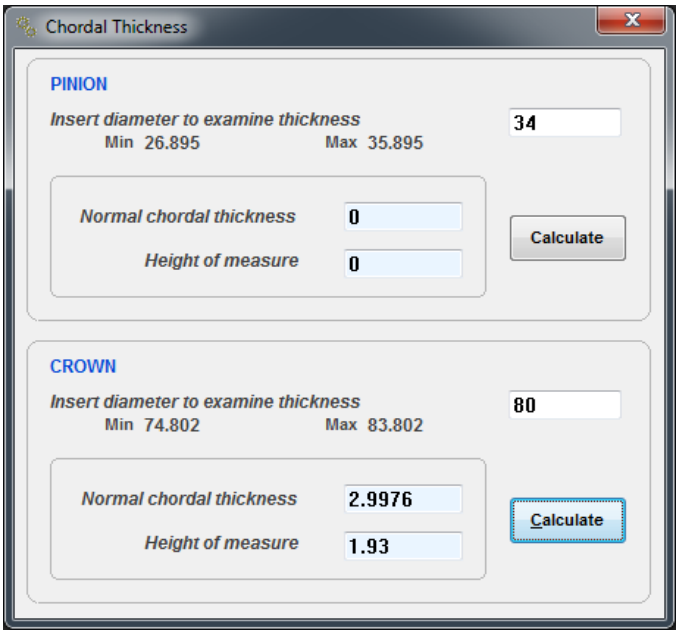


Fig. 14

Menu Calculations: Rack dimension of the ruller (Pins measurement)

The program also calculates the pins measurement, this window opens: (fig.15)

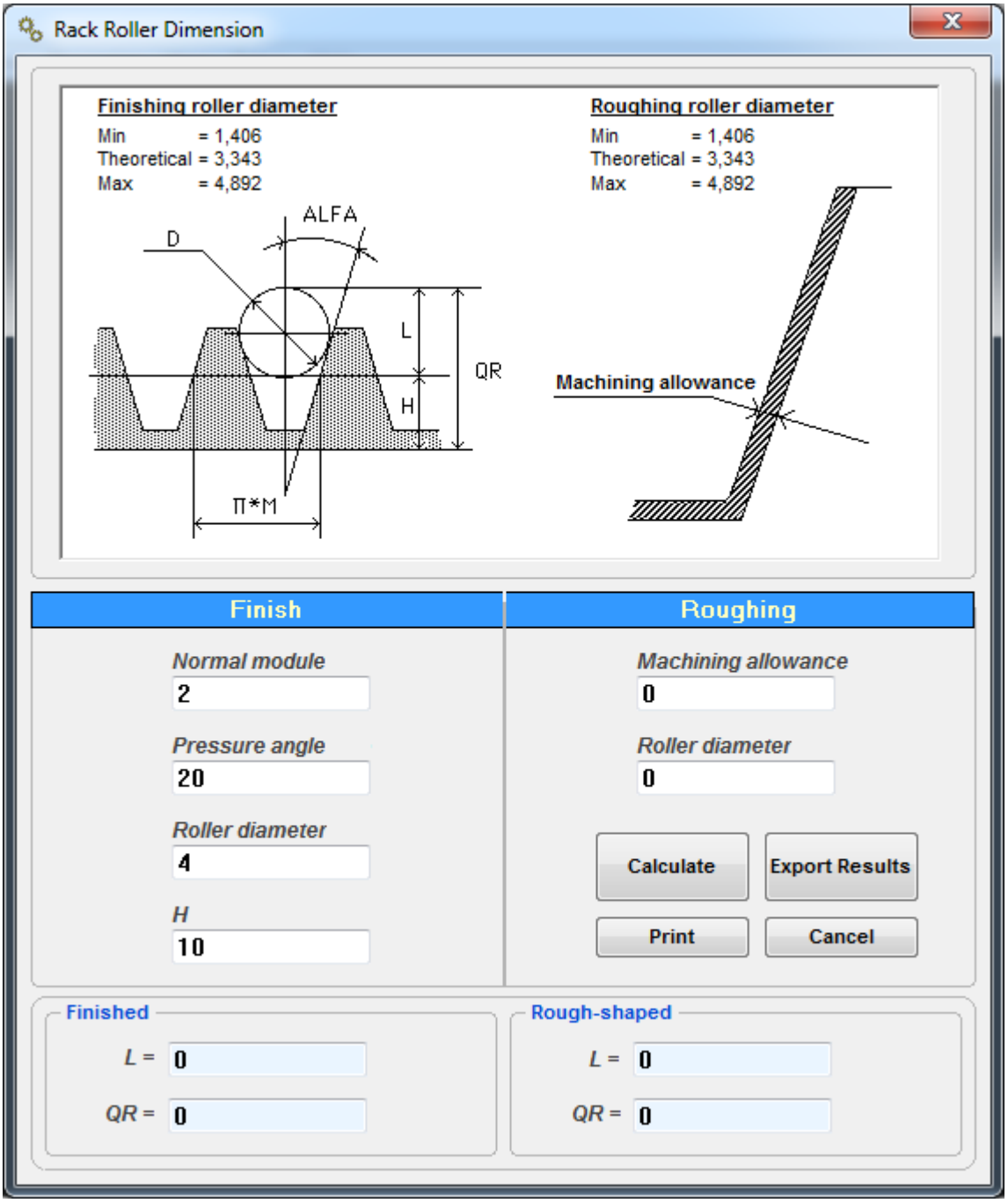


Fig.15

Pressing the "CALCULATE" button on the same window the results appear: (fig.16)

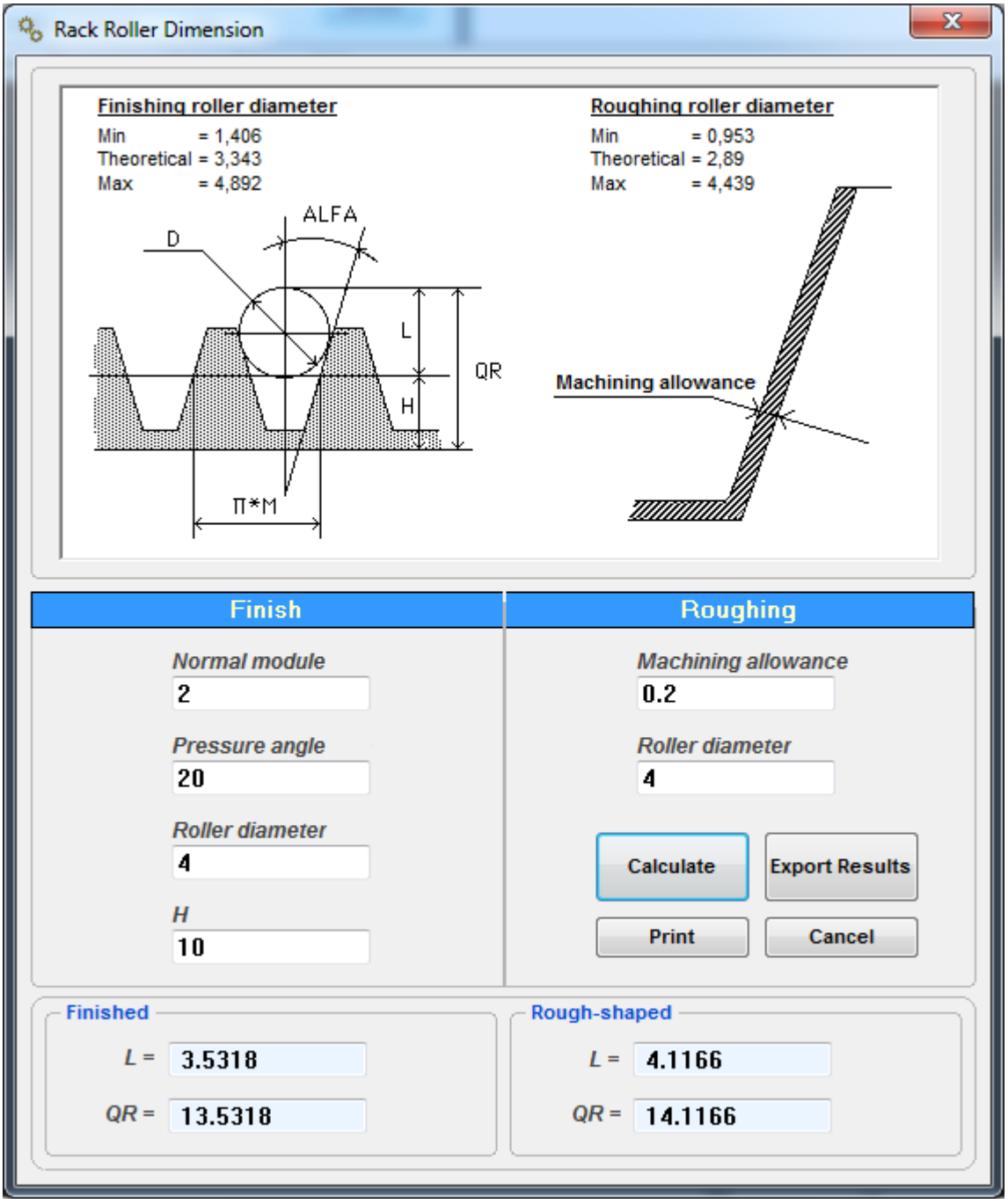


Fig.16

Menu Calculations: Calculation cutting time with hob

The program calculates the cutting time with the hob, this window opens: (fig.17)

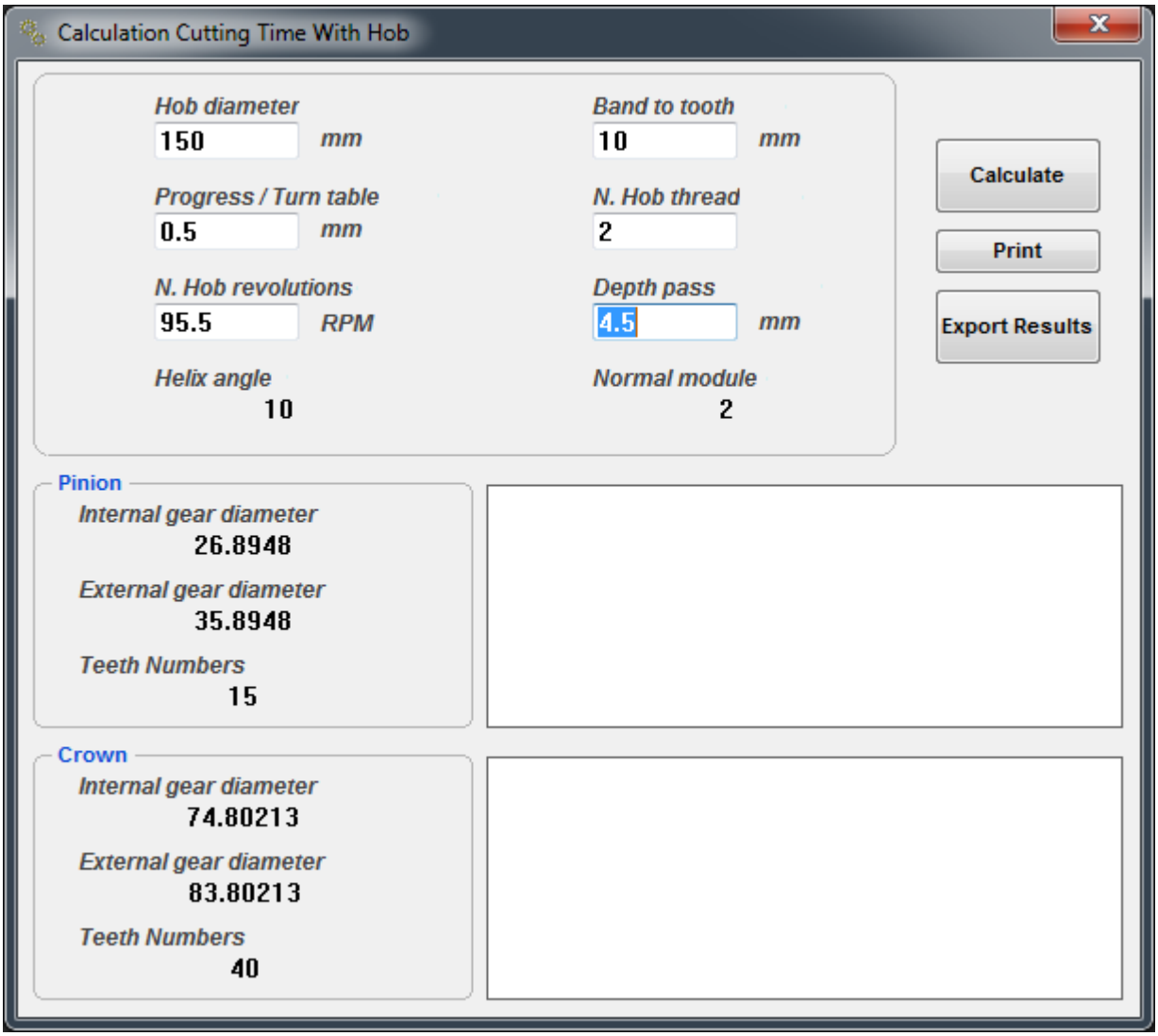


Fig. 17

Press the "CALCULATE" button, here are the results: (fig.18)

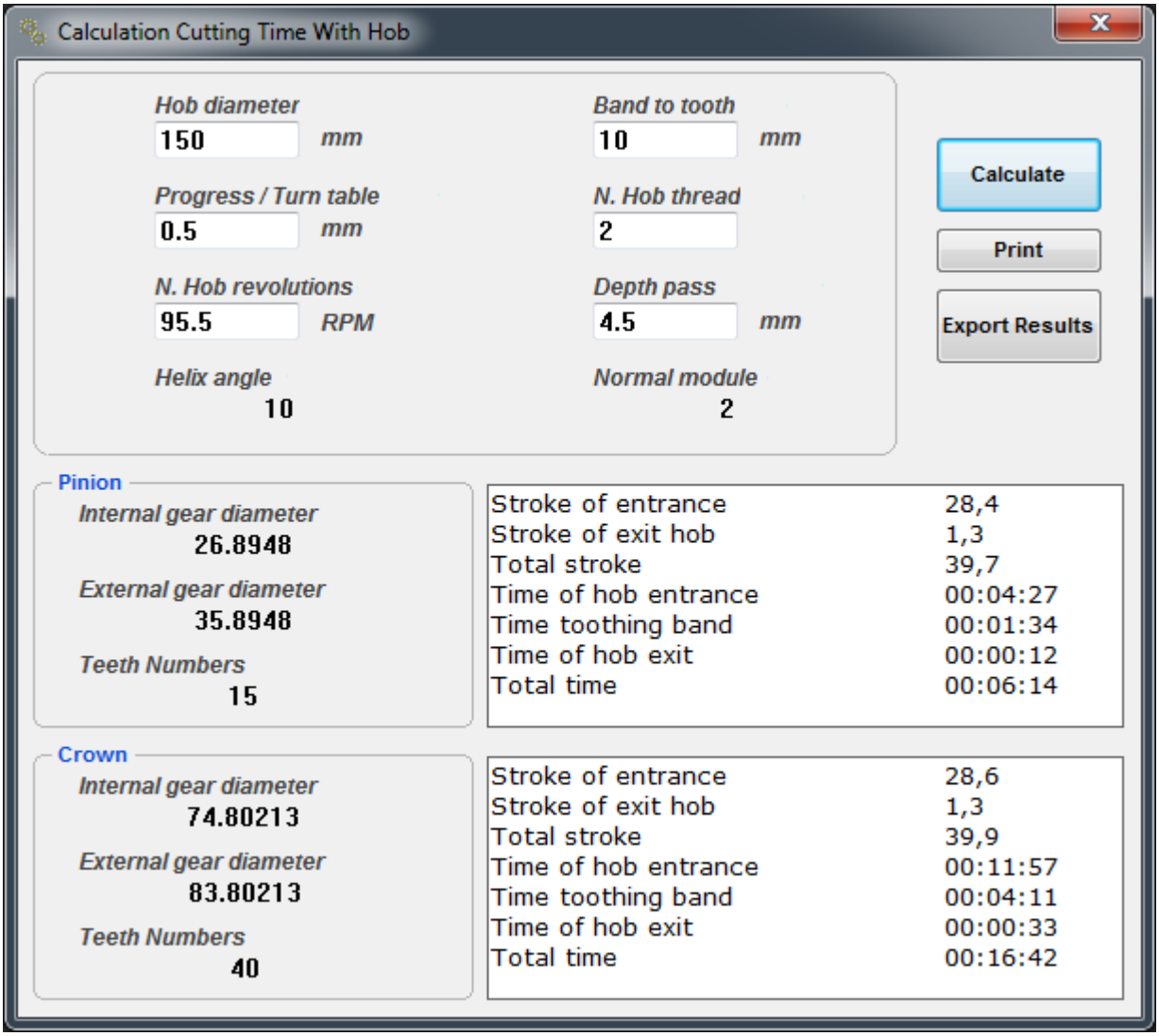


Fig. 18

Menu Calculations: Calculation cutting time with pinion cutter

The program calculates the time with pinion cutting, this window opens: (fig.19)

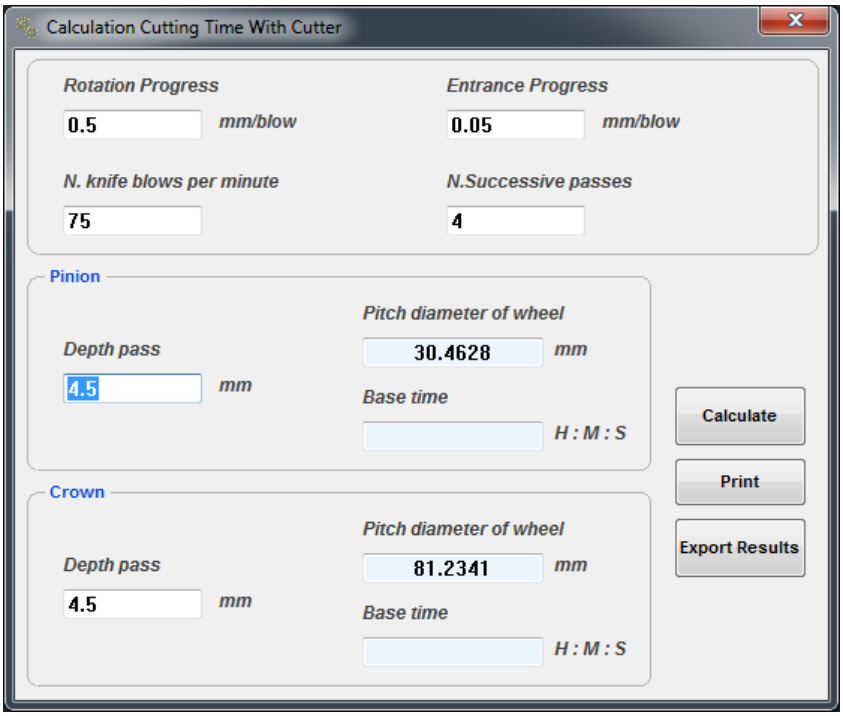


Fig. 19

Press the "CALCULATE" button, here are the results. (fig.20)

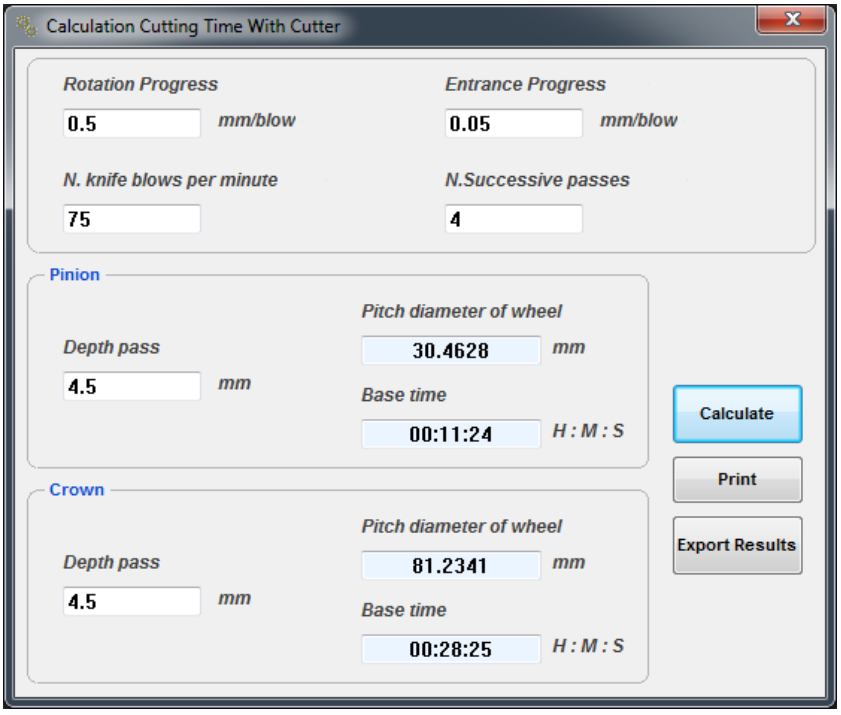


FIG.20

Menu Calculations: Case A: Fixed center distance, calculate helix angle without corrections
Knowing the center distance, the program calculates the helix angle that is necessary to achieve this center distance without any correction Xm. (fig.21

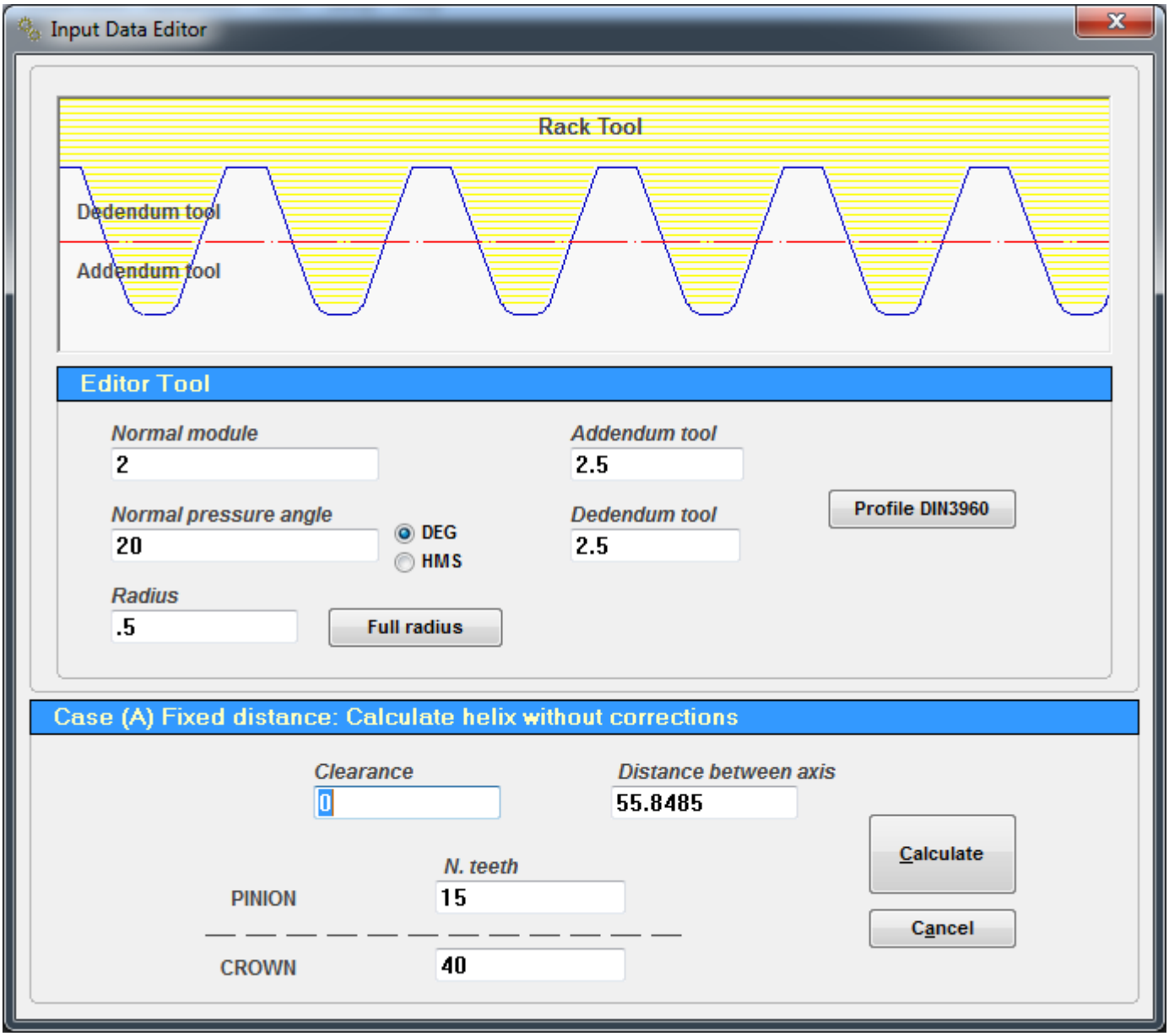


FIG. 21

Menu Calculations: Case B: Fixed center distance, Xm Data of one of the wheel
Knowing the center distance and Xm correction on a two-wheeler, the program calculates the correction Xm of the other wheel. (fig.22)

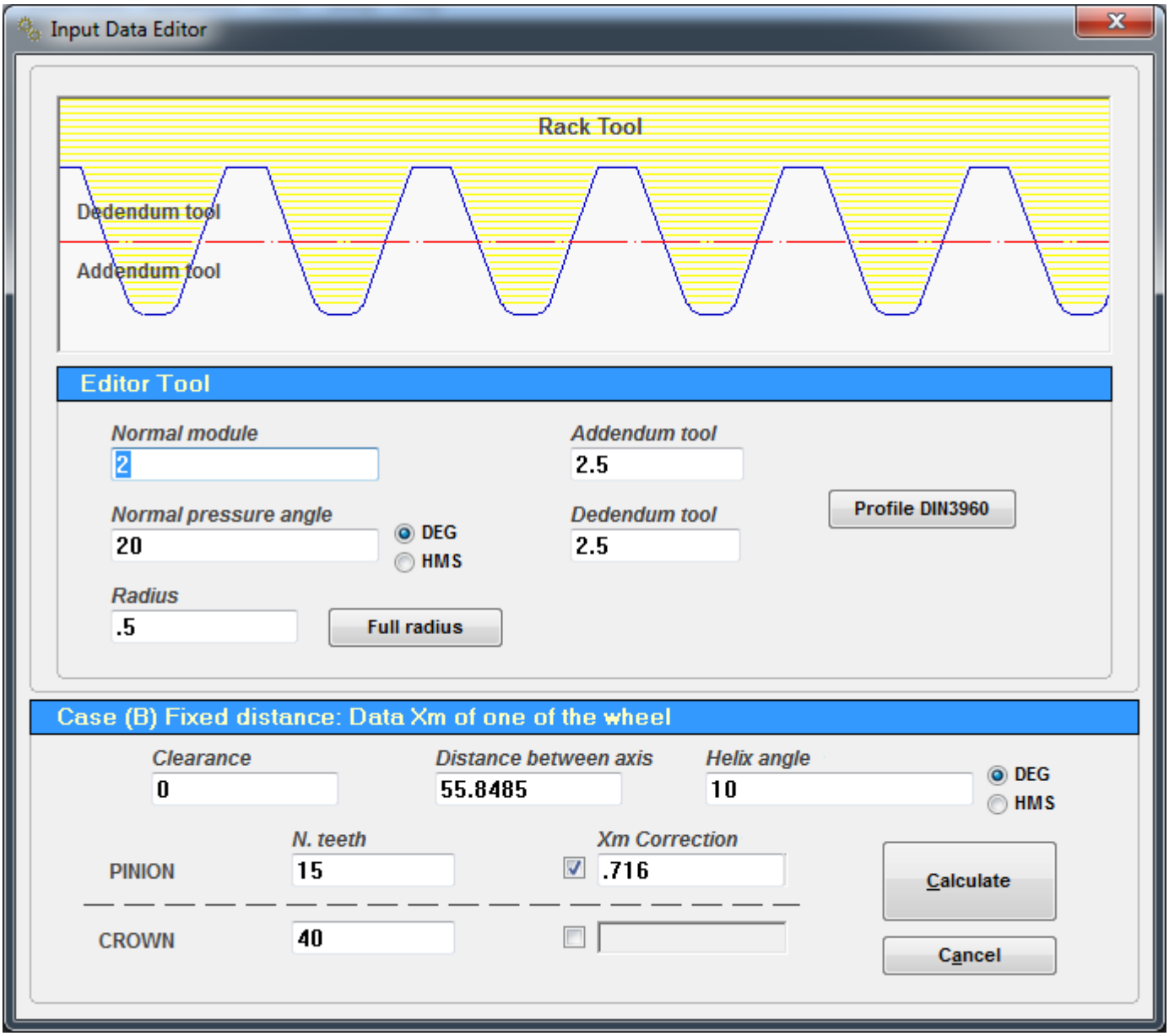


Fig. 22

Menu Calculations: Case C: Fixed center distance, sliding balancing input
Knowing the distance, the program calculates the Xm1 corrections and Xm2 to balance sliding. (fig.23

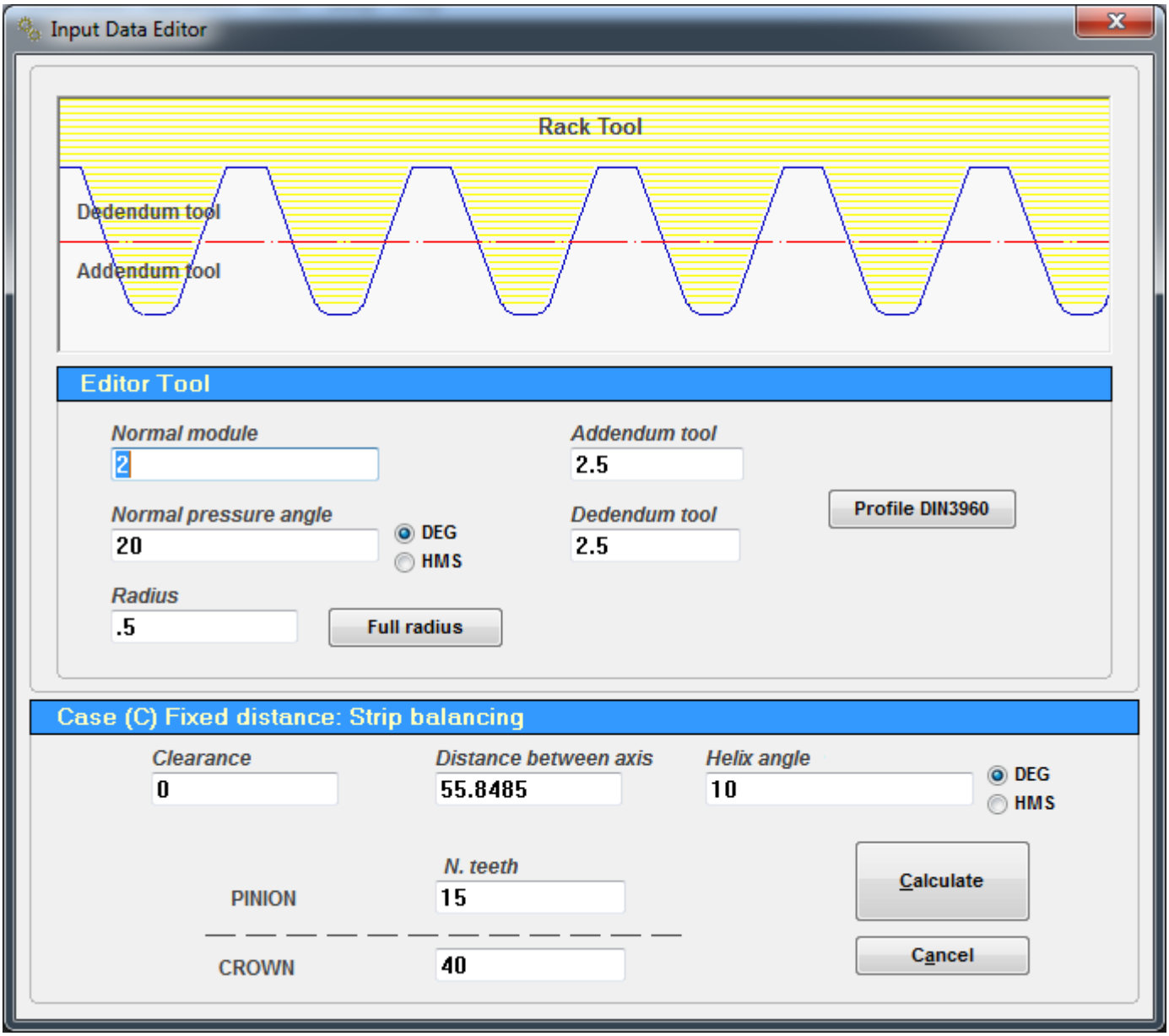


Fig. 23

Menu Draw form

The "Draw form" menu you can choose to draw:

1) The profile of the teeth of the gear1 and gear2

2) The profile of the gear teeth

3) The profile of the teeth of the pinion meshed with the tool rack or normal rack

4) The tooth profile of the wheel meshed with the tool rack or normal rack

5) The profile of the teeth of the pinion meshed with one of the wheel

In this case (fig.24) you choose: "sector meshing**"**

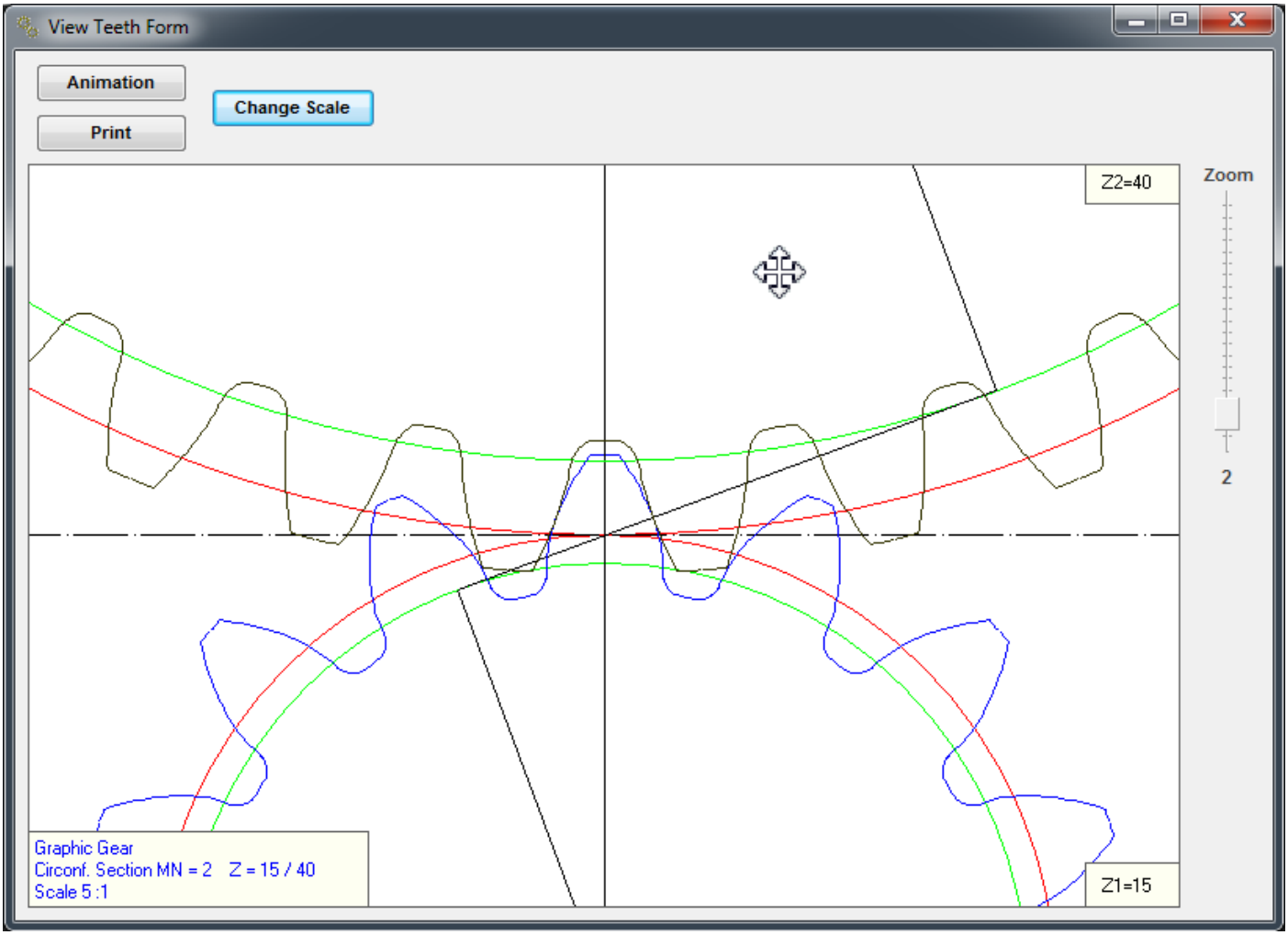


Fig. 24

Press the "Change Scale" button to change the viewing scale: (fig.25 - 26)

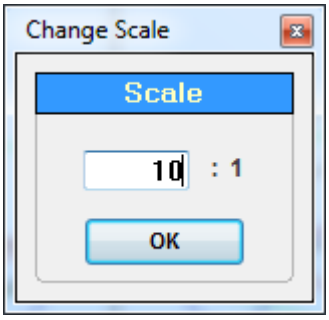


Fig.25

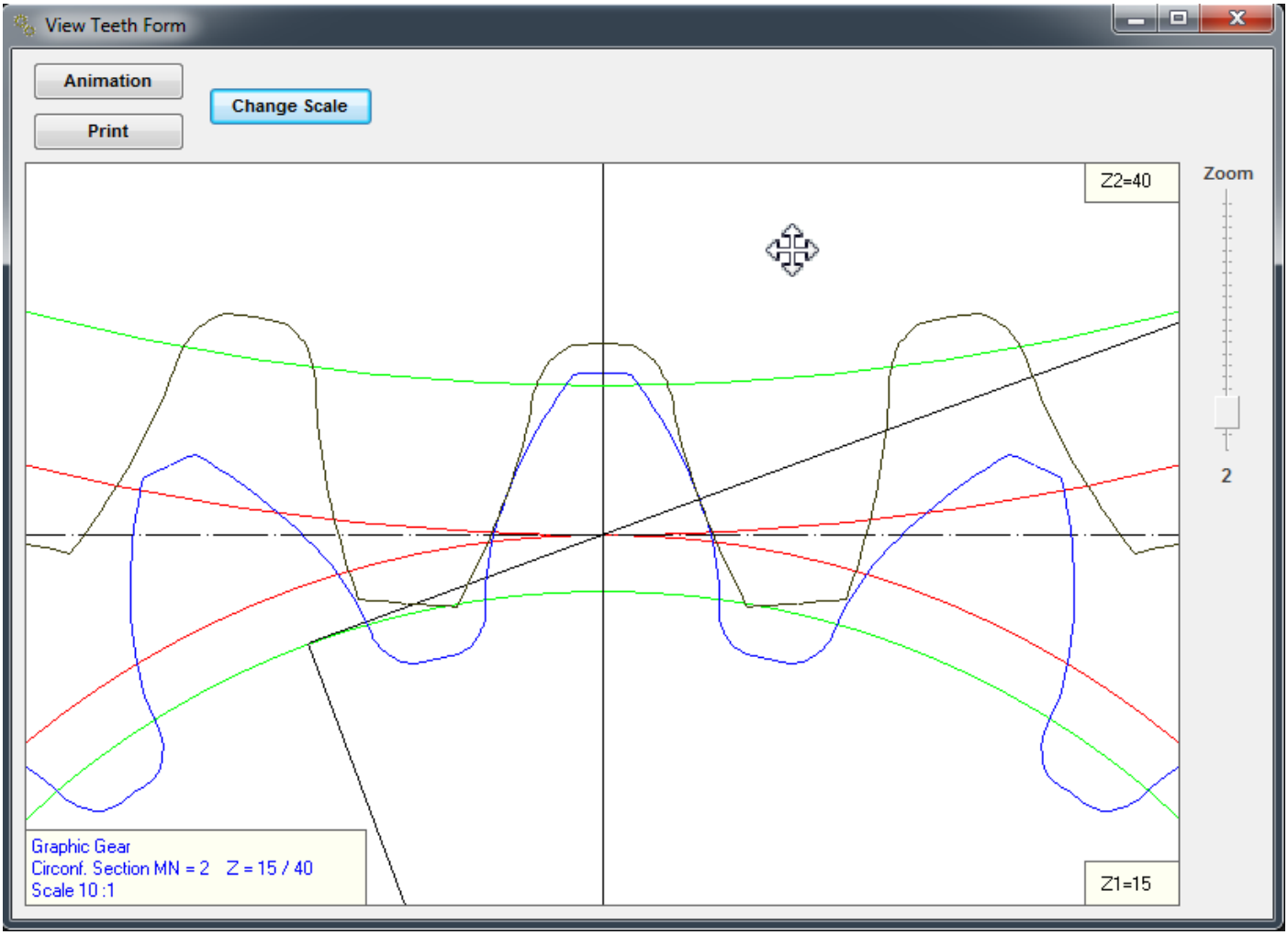


Fig.26

Menu Draw form: Animation window (fig.27)
"Rotation Step" defines the rotation step larger or smaller.

"Show points" shows the points of contact involved in the length of action.

"Rotation Direction" Defines the left or right rotation.

"Print" Print window.

"Change scale" zooms in the scale you want.

"Zoom" the right slider performs a dynamic zoom.

Pressing the mouse button to bring up the Windows cursor.

You may move the pattern represented in the window.

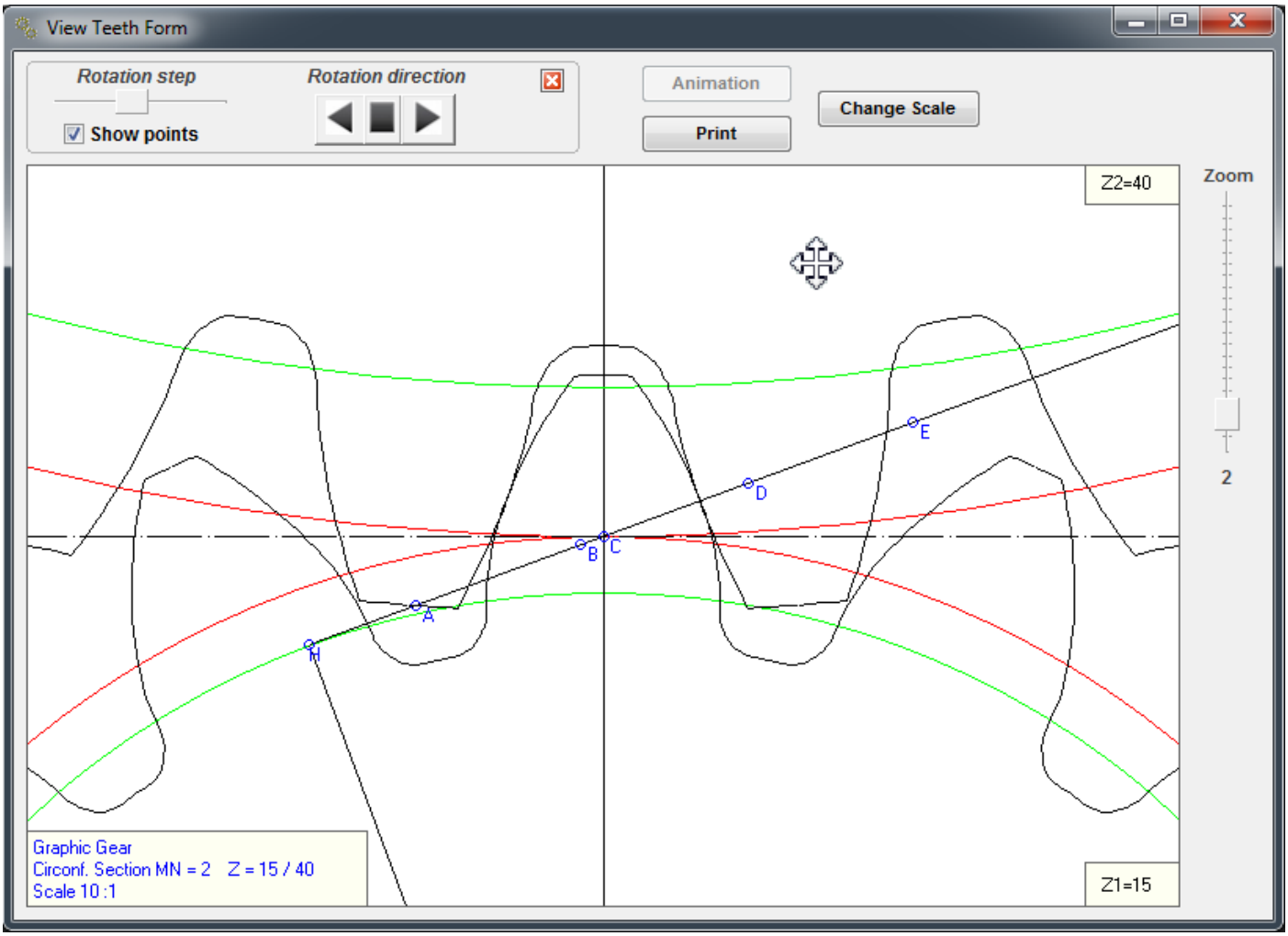


Fig. 27

Menu Draw form: Pinion
After you see the following window you press the "rack Tool" button. (fig.28)

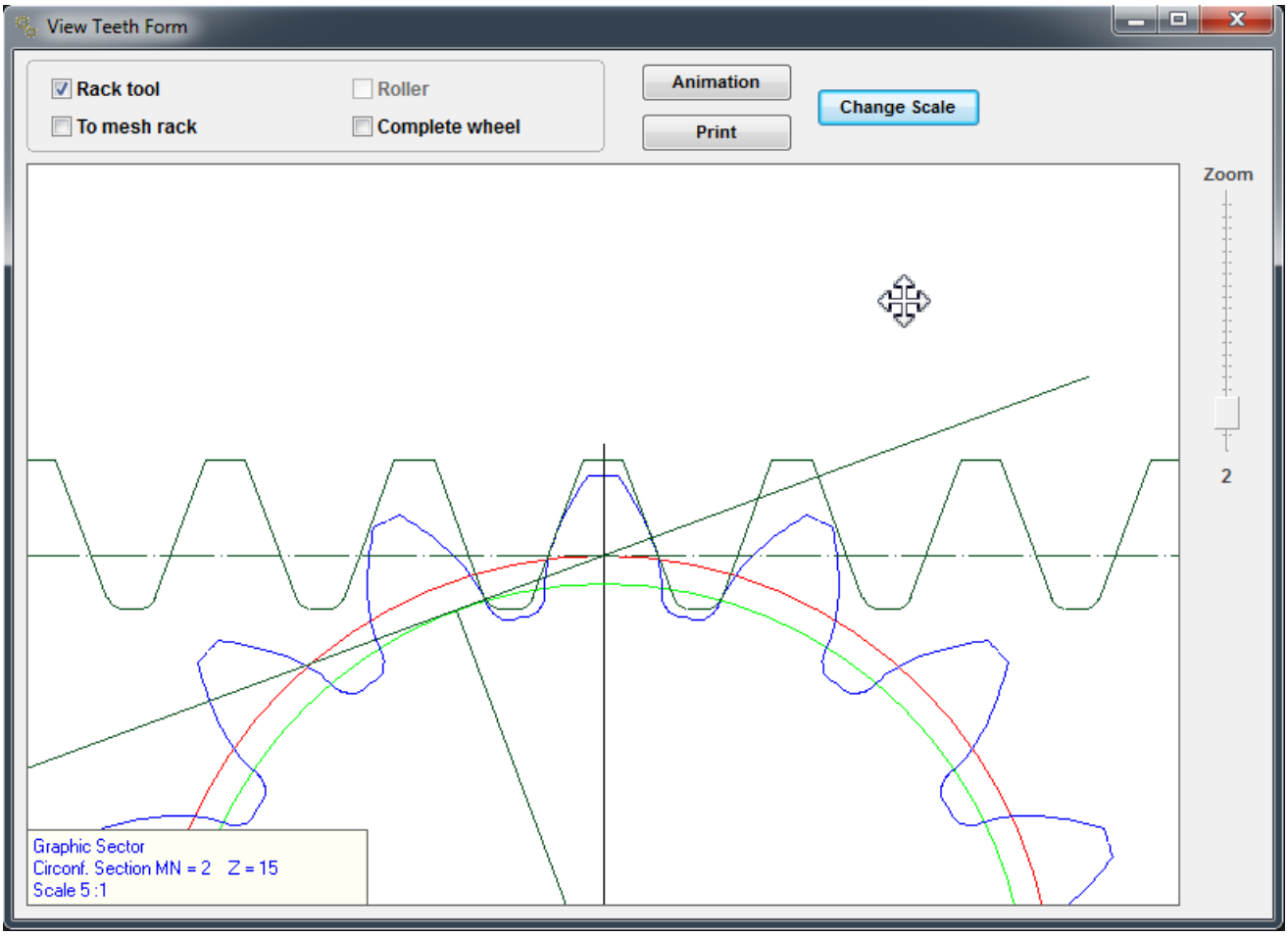


Fig.28

Pressing the "Animation" button and doing zoom, this is the animation window. (fig.29)

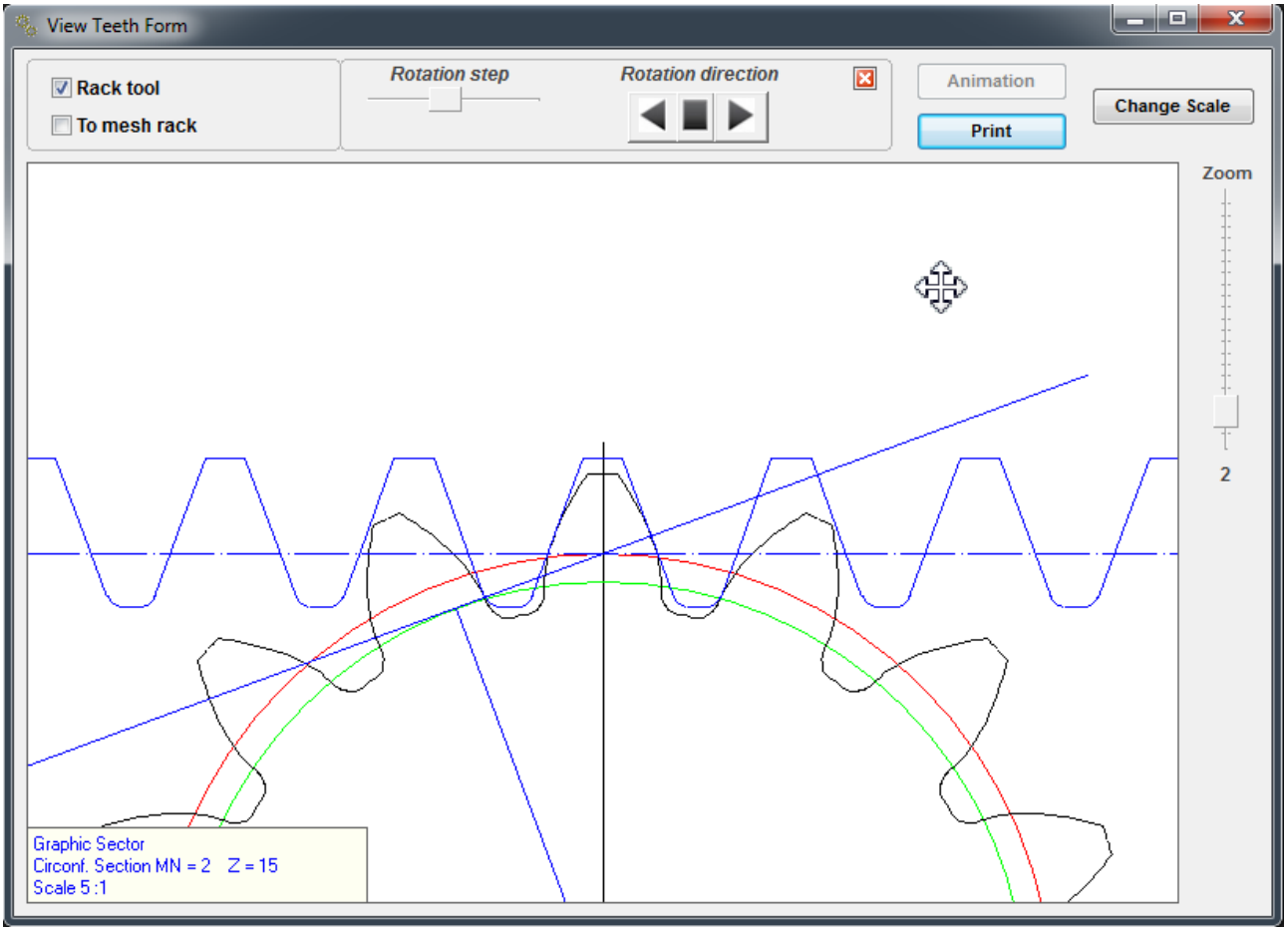


Fig.29

Menu View: Coordinates
You can choose "Coordinates" You can get a table of coordinates at will be the tooth of the tooth space 1 and 2 (fig.31)

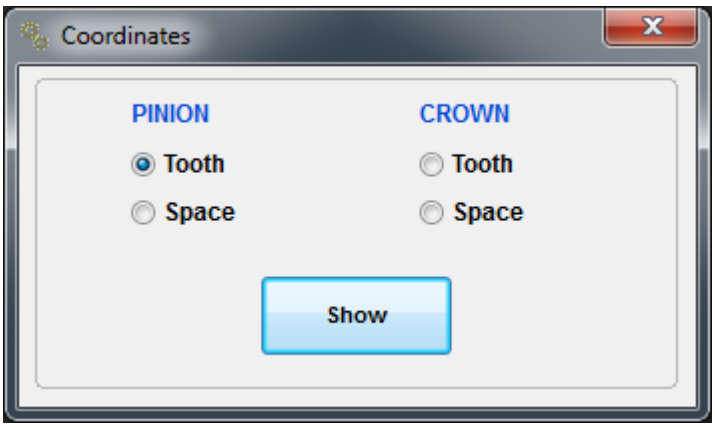


Fig.31

X and Y are the Cartesian coordinates from the gear center

R and alpha are the polar coordinates of the center gear

You can get a tooth design at the desired scale. (fig.32)

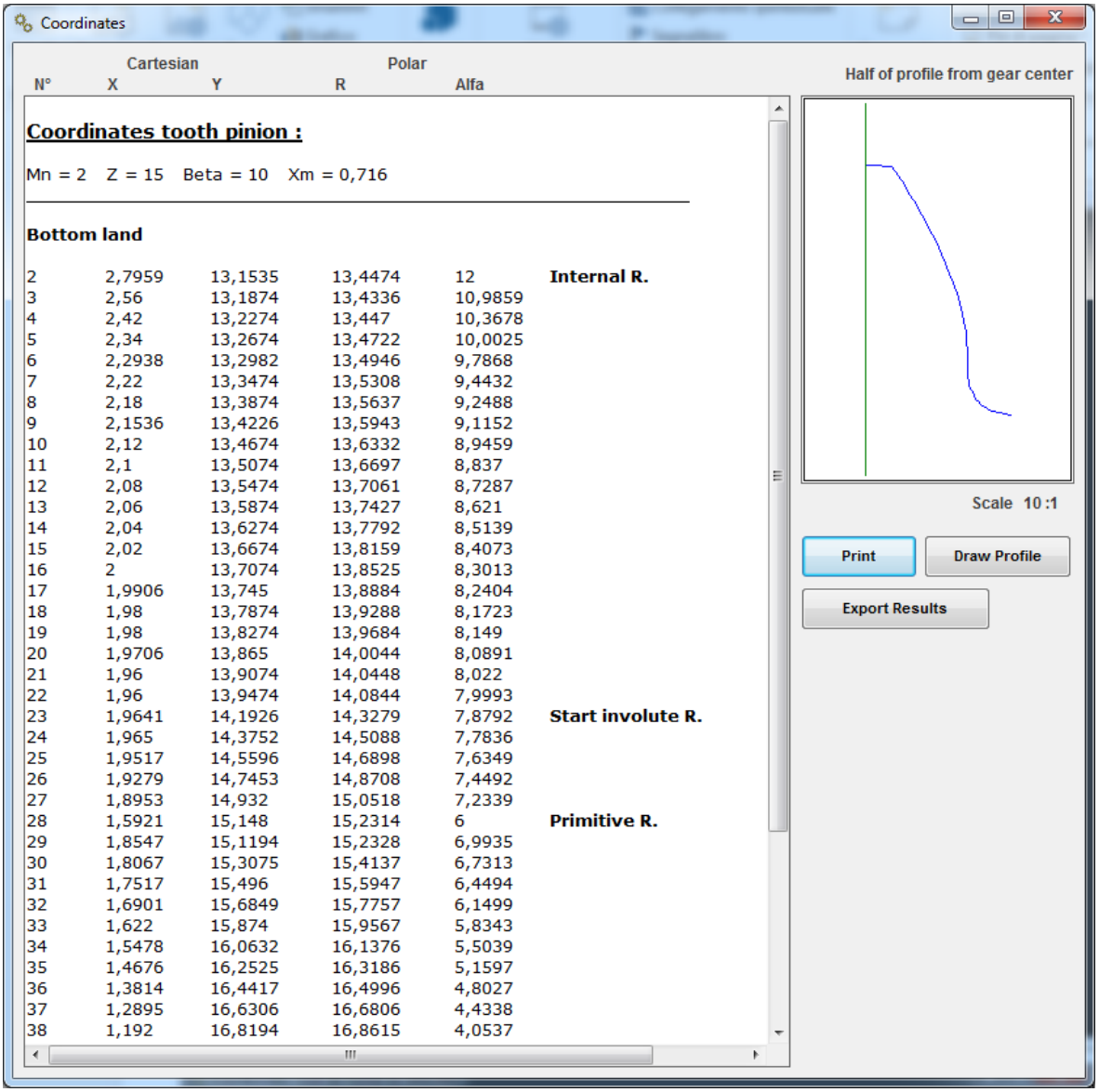


Fig.32

Menu View: Coordinates tool shape
You can select the " Coordinates tool schape or moulding"

You can get a coordinate table with 45 points around the shape of the tooth or the shape of the tool, the pinion and wheel (fig.33)

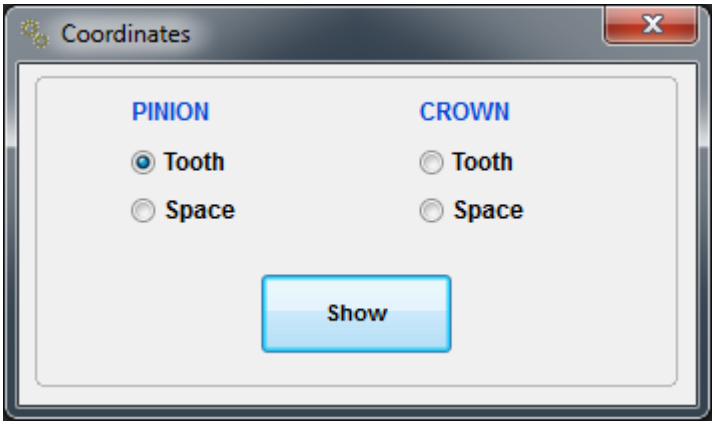


Fig.33

X and Y are the Cartesian coordinates from the gear center

R and alpha are the polar coordinates of the center gear

You can get a tooth design at the desired scale. (fig.34)

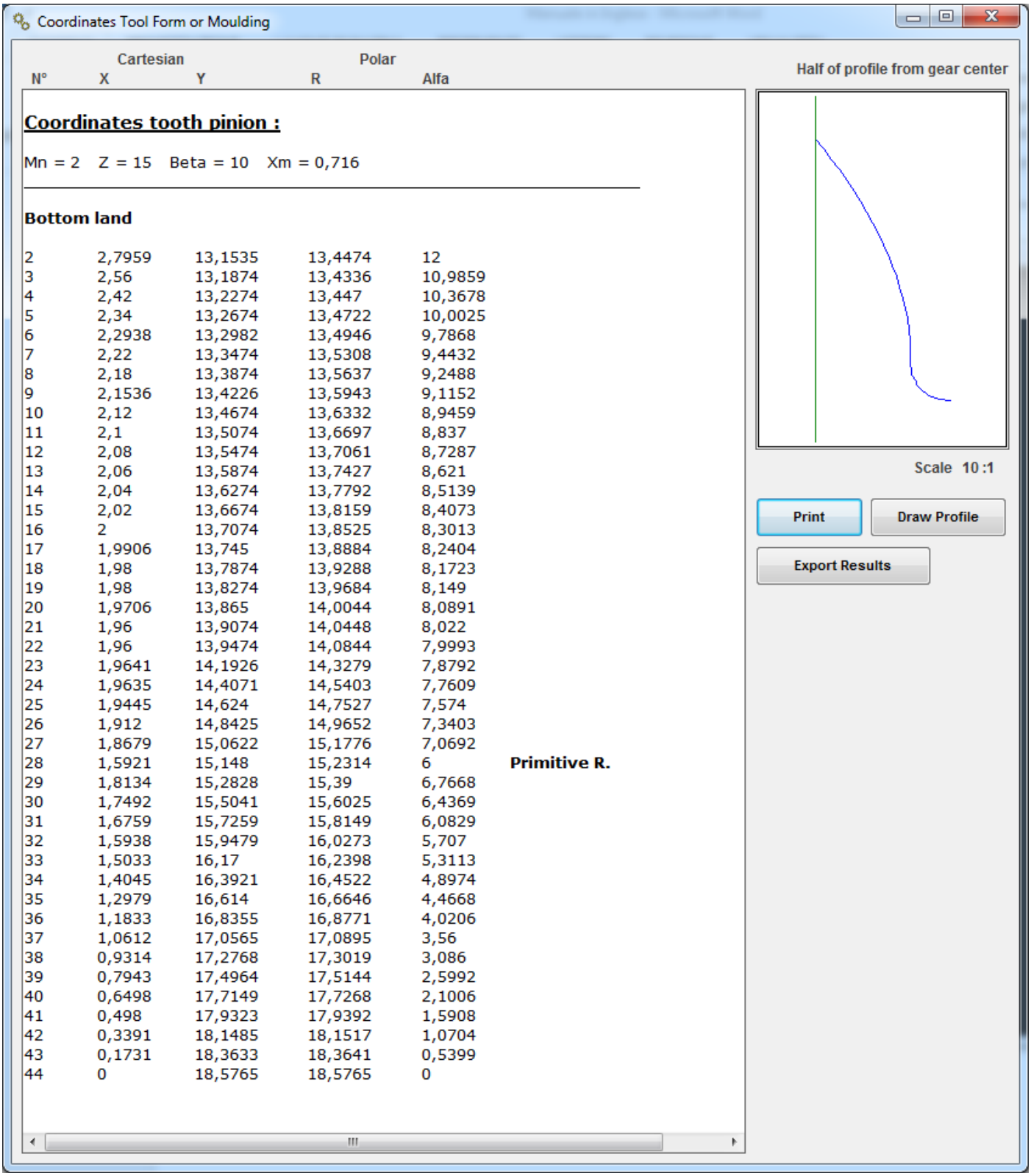
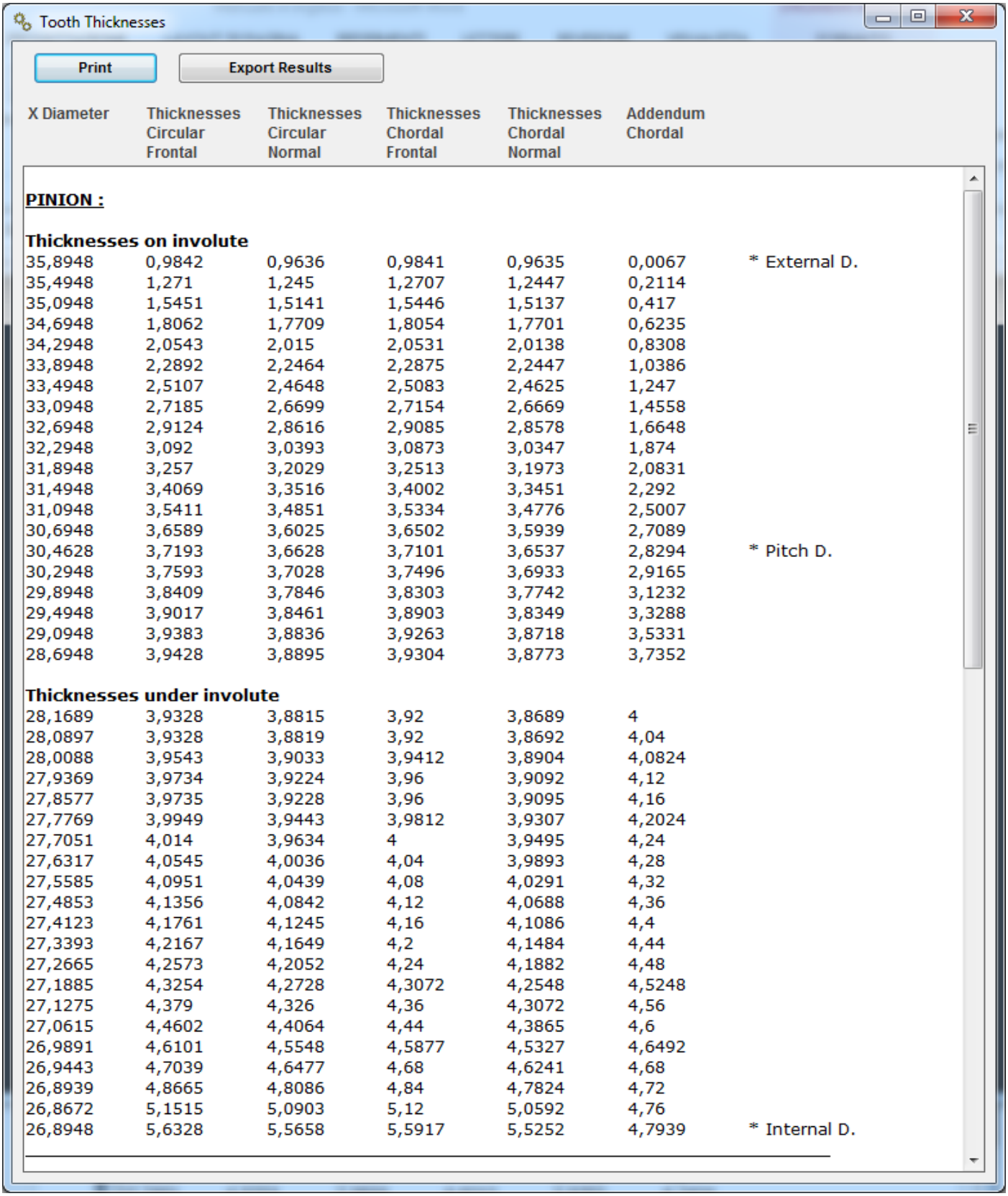


Fig.34

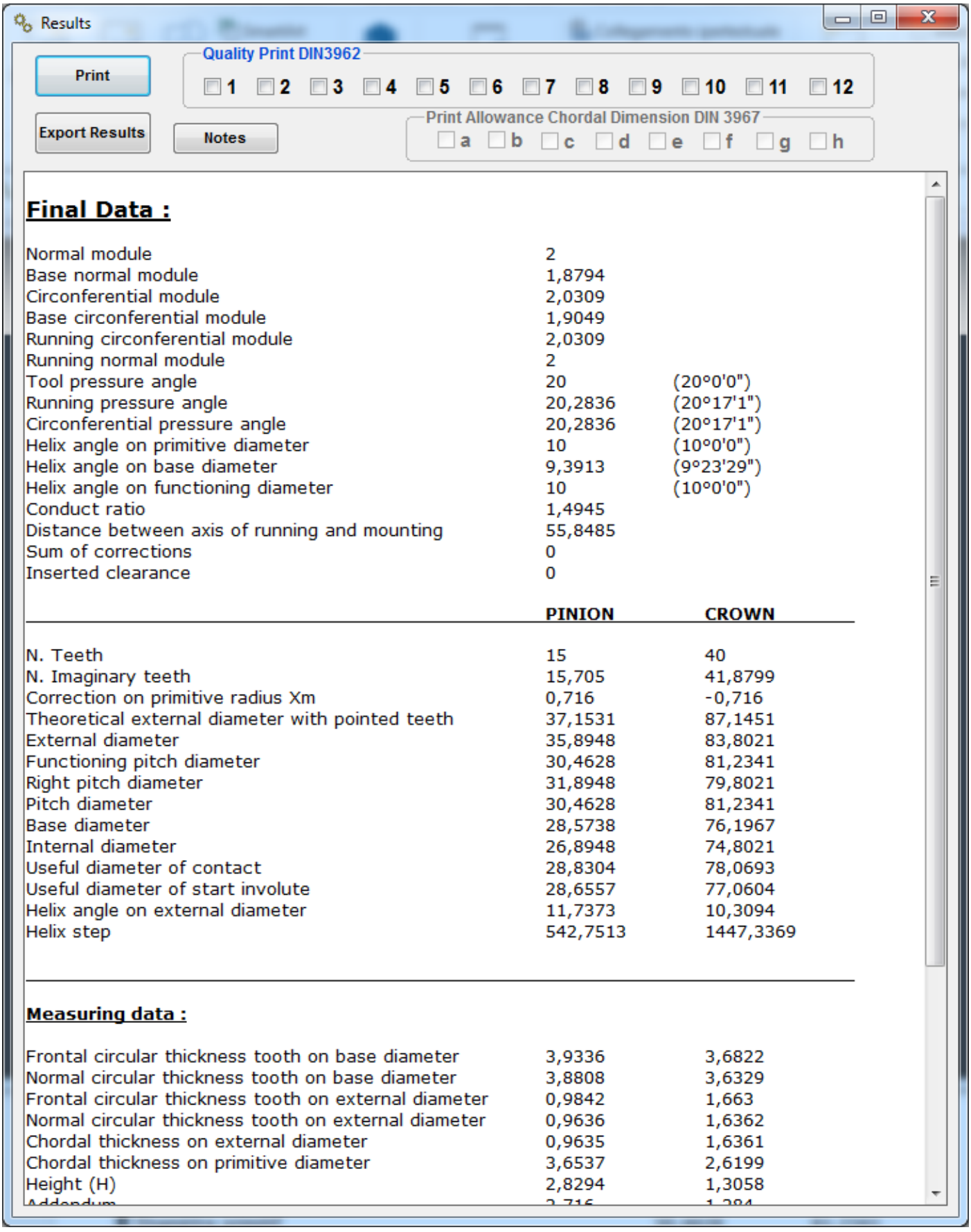
Menu View: Tooth thicknesses
You can get a table with the tooth thickness: (fig.36)



X Diameter	Thicknesses Circular Frontal	Thicknesses Circular Normal	Thicknesses Chordal Frontal	Thicknesses Chordal Normal	Addendum Chordal	
PINION :						
Thicknesses on involute						
35,8948	0,9842	0,9636	0,9841	0,9635	0,0067	* External D.
35,4948	1,271	1,245	1,2707	1,2447	0,2114	
35,0948	1,5451	1,5141	1,5446	1,5137	0,417	
34,6948	1,8062	1,7709	1,8054	1,7701	0,6235	
34,2948	2,0543	2,015	2,0531	2,0138	0,8308	
33,8948	2,2892	2,2464	2,2875	2,2447	1,0386	
33,4948	2,5107	2,4648	2,5083	2,4625	1,247	
33,0948	2,7185	2,6699	2,7154	2,6669	1,4558	
32,6948	2,9124	2,8616	2,9085	2,8578	1,6648	
32,2948	3,092	3,0393	3,0873	3,0347	1,874	
31,8948	3,257	3,2029	3,2513	3,1973	2,0831	
31,4948	3,4069	3,3516	3,4002	3,3451	2,292	
31,0948	3,5411	3,4851	3,5334	3,4776	2,5007	
30,6948	3,6589	3,6025	3,6502	3,5939	2,7089	
30,4628	3,7193	3,6628	3,7101	3,6537	2,8294	* Pitch D.
30,2948	3,7593	3,7028	3,7496	3,6933	2,9165	
29,8948	3,8409	3,7846	3,8303	3,7742	3,1232	
29,4948	3,9017	3,8461	3,8903	3,8349	3,3288	
29,0948	3,9383	3,8836	3,9263	3,8718	3,5331	
28,6948	3,9428	3,8895	3,9304	3,8773	3,7352	
Thicknesses under involute						
28,1689	3,9328	3,8815	3,92	3,8689	4	
28,0897	3,9328	3,8819	3,92	3,8692	4,04	
28,0088	3,9543	3,9033	3,9412	3,8904	4,0824	
27,9369	3,9734	3,9224	3,96	3,9092	4,12	
27,8577	3,9735	3,9228	3,96	3,9095	4,16	
27,7769	3,9949	3,9443	3,9812	3,9307	4,2024	
27,7051	4,014	3,9634	4	3,9495	4,24	
27,6317	4,0545	4,0036	4,04	3,9893	4,28	
27,5585	4,0951	4,0439	4,08	4,0291	4,32	
27,4853	4,1356	4,0842	4,12	4,0688	4,36	
27,4123	4,1761	4,1245	4,16	4,1086	4,4	
27,3393	4,2167	4,1649	4,2	4,1484	4,44	
27,2665	4,2573	4,2052	4,24	4,1882	4,48	
27,1885	4,3254	4,2728	4,3072	4,2548	4,5248	
27,1275	4,379	4,326	4,36	4,3072	4,56	
27,0615	4,4602	4,4064	4,44	4,3865	4,6	
26,9891	4,6101	4,5548	4,5877	4,5327	4,6492	
26,9443	4,7039	4,6477	4,68	4,6241	4,68	
26,8939	4,8665	4,8086	4,84	4,7824	4,72	
26,8672	5,1515	5,0903	5,12	5,0592	4,76	
26,8948	5,6328	5,5658	5,5917	5,5252	4,7939	* Internal D.

Fig.36

Menu View: Results (fig.37)



Final Data :

Normal module	2	
Base normal module	1,8794	
Circonferential module	2,0309	
Base circonferential module	1,9049	
Running circonferential module	2,0309	
Running normal module	2	
Tool pressure angle	20	(20°0'0")
Running pressure angle	20,2836	(20°17'1")
Circonferential pressure angle	20,2836	(20°17'1")
Helix angle on primitive diameter	10	(10°0'0")
Helix angle on base diameter	9,3913	(9°23'29")
Helix angle on functioning diameter	10	(10°0'0")
Conduct ratio	1,4945	
Distance between axis of running and mounting	55,8485	
Sum of corrections	0	
Inserted clearance	0	

	PINION	CROWN
N. Teeth	15	40
N. Imaginary teeth	15,705	41,8799
Correction on primitive radius Xm	0,716	-0,716
Theoretical external diameter with pointed teeth	37,1531	87,1451
External diameter	35,8948	83,8021
Functioning pitch diameter	30,4628	81,2341
Right pitch diameter	31,8948	79,8021
Pitch diameter	30,4628	81,2341
Base diameter	28,5738	76,1967
Internal diameter	26,8948	74,8021
Useful diameter of contact	28,8304	78,0693
Useful diameter of start involute	28,6557	77,0604
Helix angle on external diameter	11,7373	10,3094
Helix step	542,7513	1447,3369

Measuring data :

Frontal circular thickness tooth on base diameter	3,9336	3,6822
Normal circular thickness tooth on base diameter	3,8808	3,6329
Frontal circular thickness tooth on external diameter	0,9842	1,663
Normal circular thickness tooth on external diameter	0,9636	1,6362
Chordal thickness on external diameter	0,9635	1,6361
Chordal thickness on primitive diameter	3,6537	2,6199
Height (H)	2,8294	1,3058
Addendum	2,716	1,284

Fig.37

Menu View: Specific strip plot (fig.38)

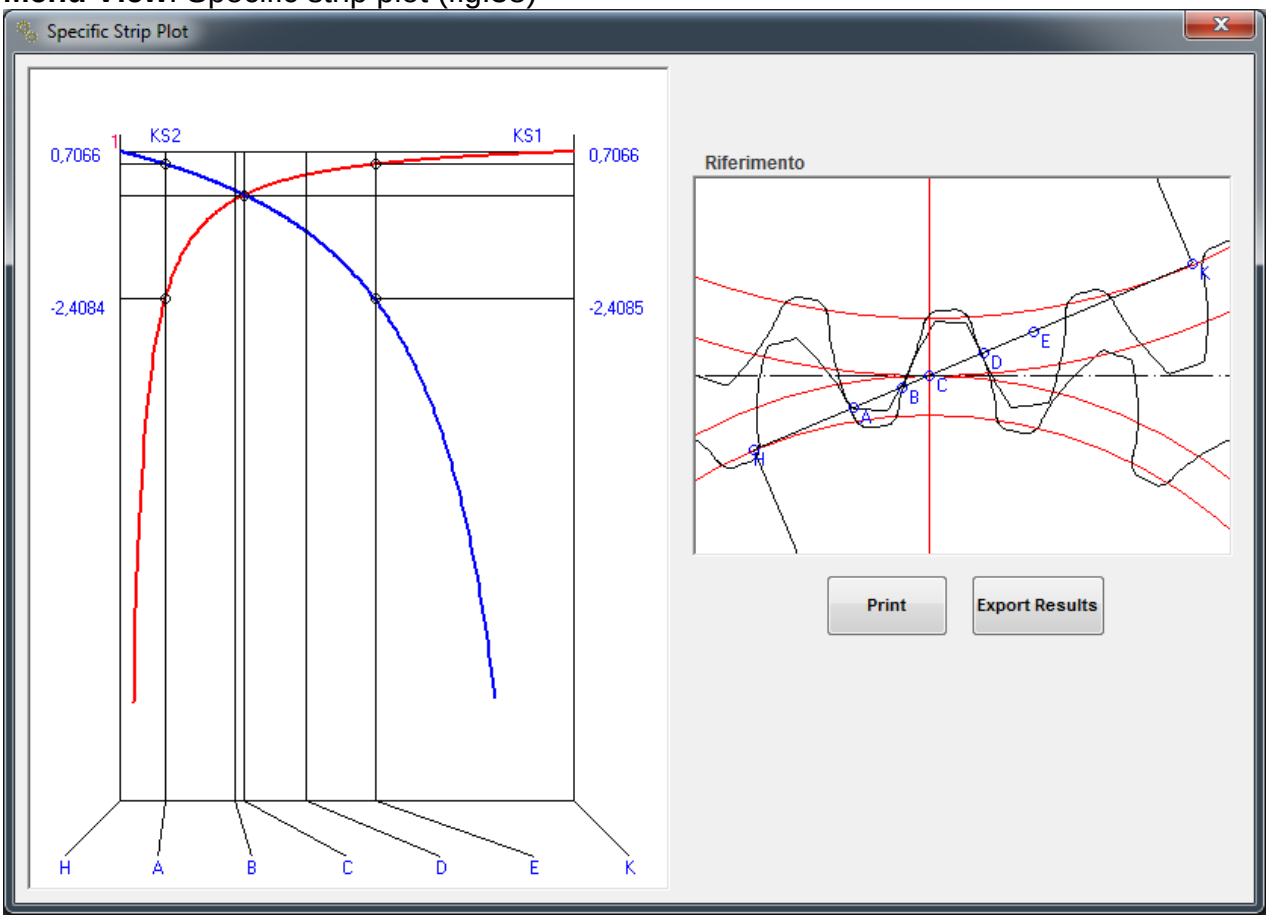


Fig.38

Menu View: Factor of form (fig.39)

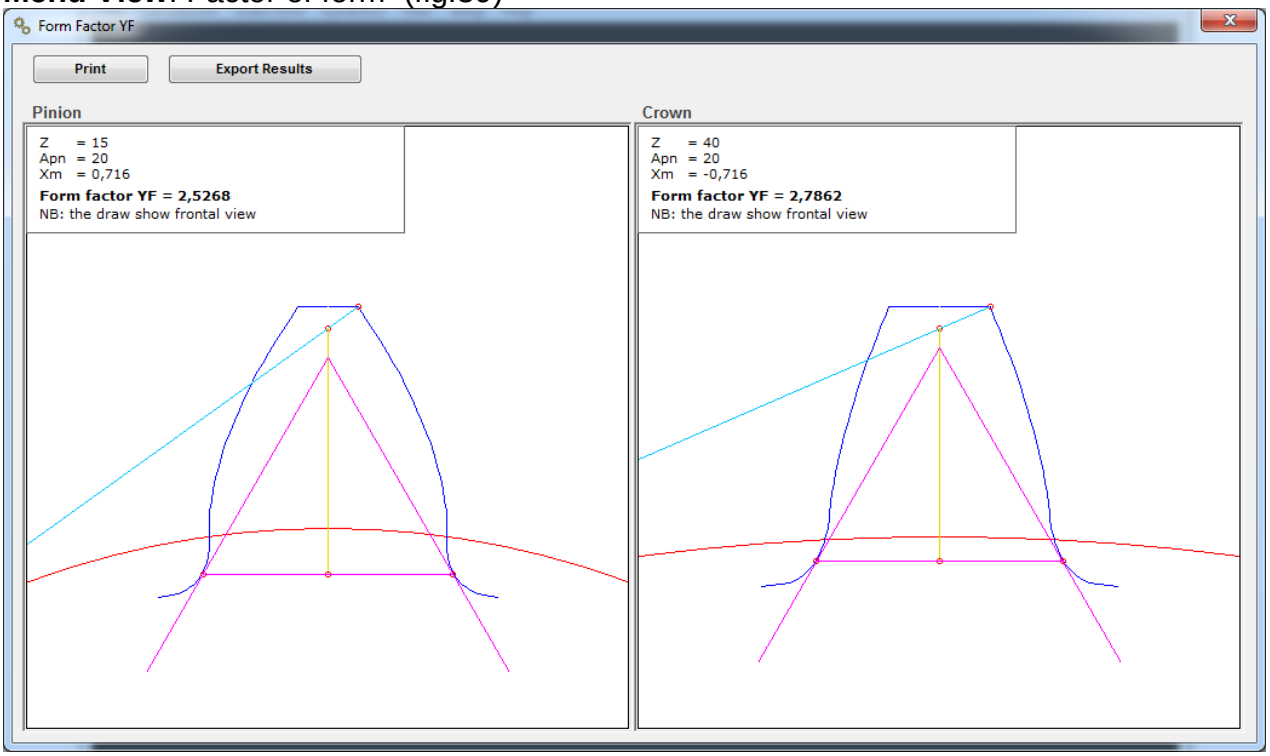
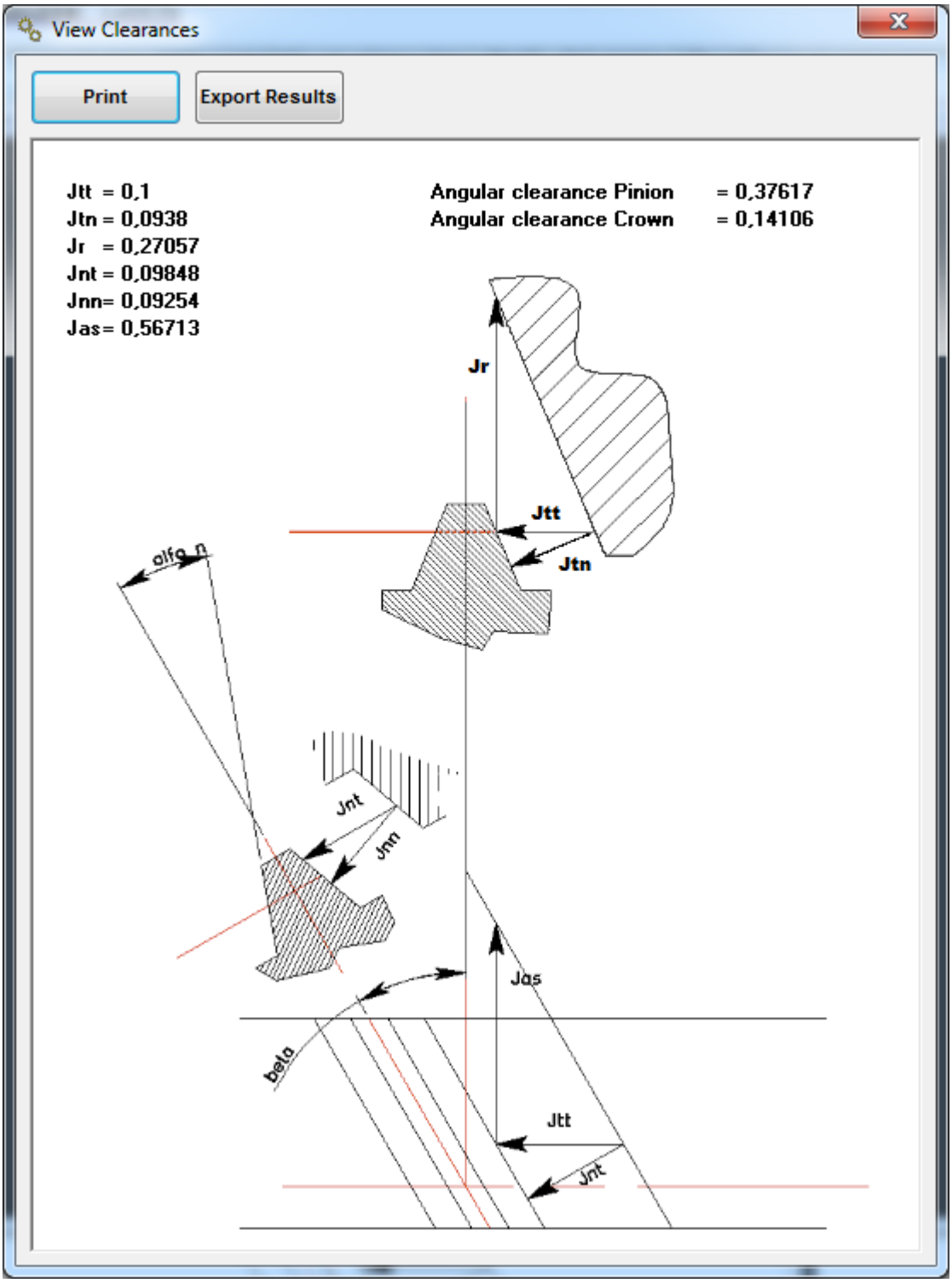


Fig.39

Menu View: Clearances

If in the input data a clearance was scheduled between the teeth, on the View menu you can see all the lights in your teeth derived from the data you have set. (JTT= clearance entered)



Menu Dynamics

It executes the dynamic calculation and sizing the effective face width as a function of the forces and of a pair of work cycle.

The calculation is performed as published by 'Ing. Georges Henriot (1921-2009), one of the leading world experts in gears.

The calculation is very reliable, as long as you know how to estimate the coefficients of the service factor, the quality of teeth and hours duration.

Calculating fatigue is not a precise calculation as the geometric calculation, but it depends on many variables and "analogic" factors, empirical, taken from practical experimentation.

Therefore, the firm "Crivellin Progettazioni" does not take any responsibility for the result, a result that is conditioned by technical knowledge, and from the user's estimated capacity.

Here you will not find the formulas used in the program, but will be fully set out in the Annex to this user manual.

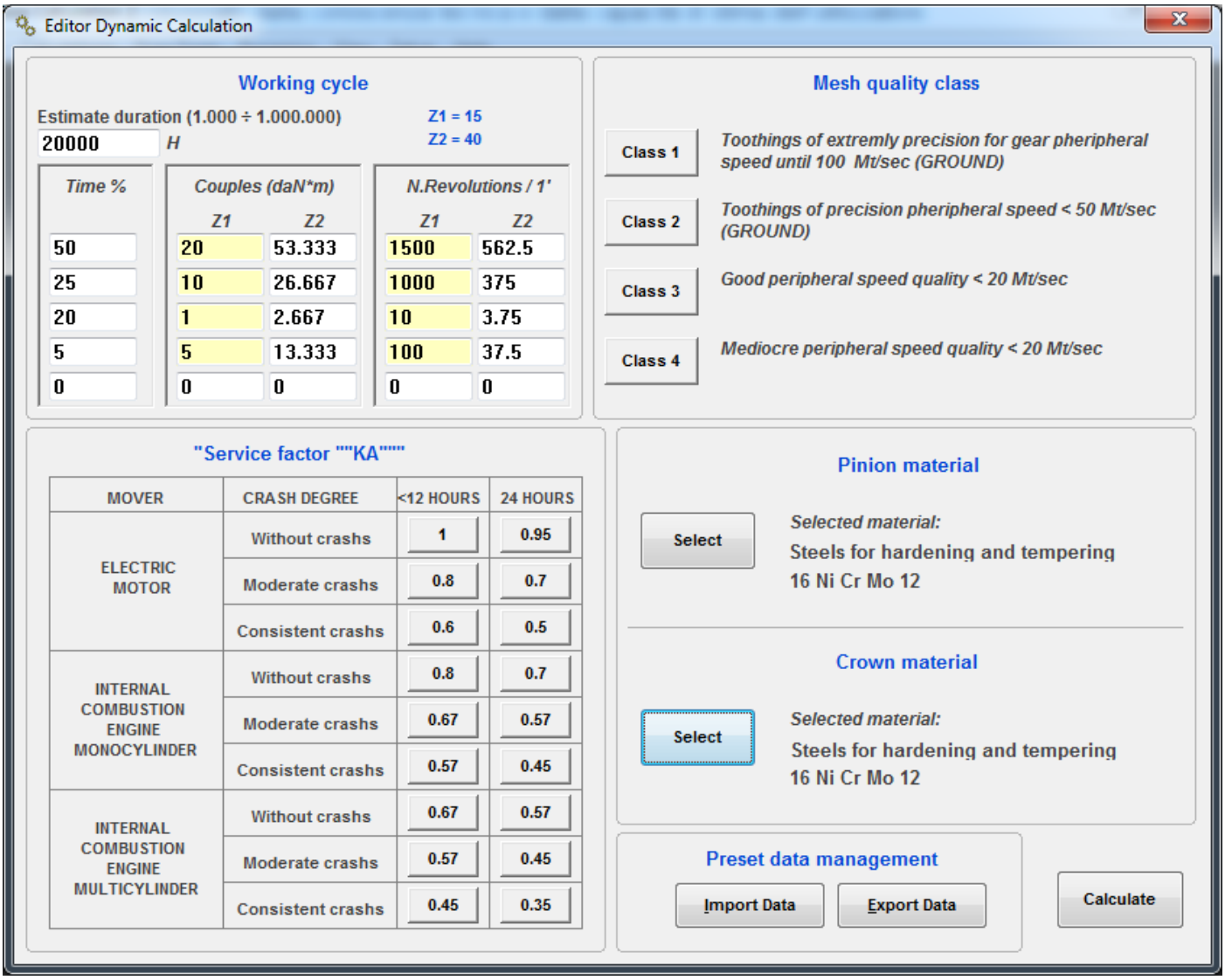


Fig. 40

1) Enter a planned duration in hours
2) Insert an expected duty cycle (pairs and turns the pinion)
3) Enter a service factor
4) Insert the accuracy class and the finish surface tooth
5) Choose the pinion building material (see fig.41)
6) Choose the wheel of the building material (see fig.41)

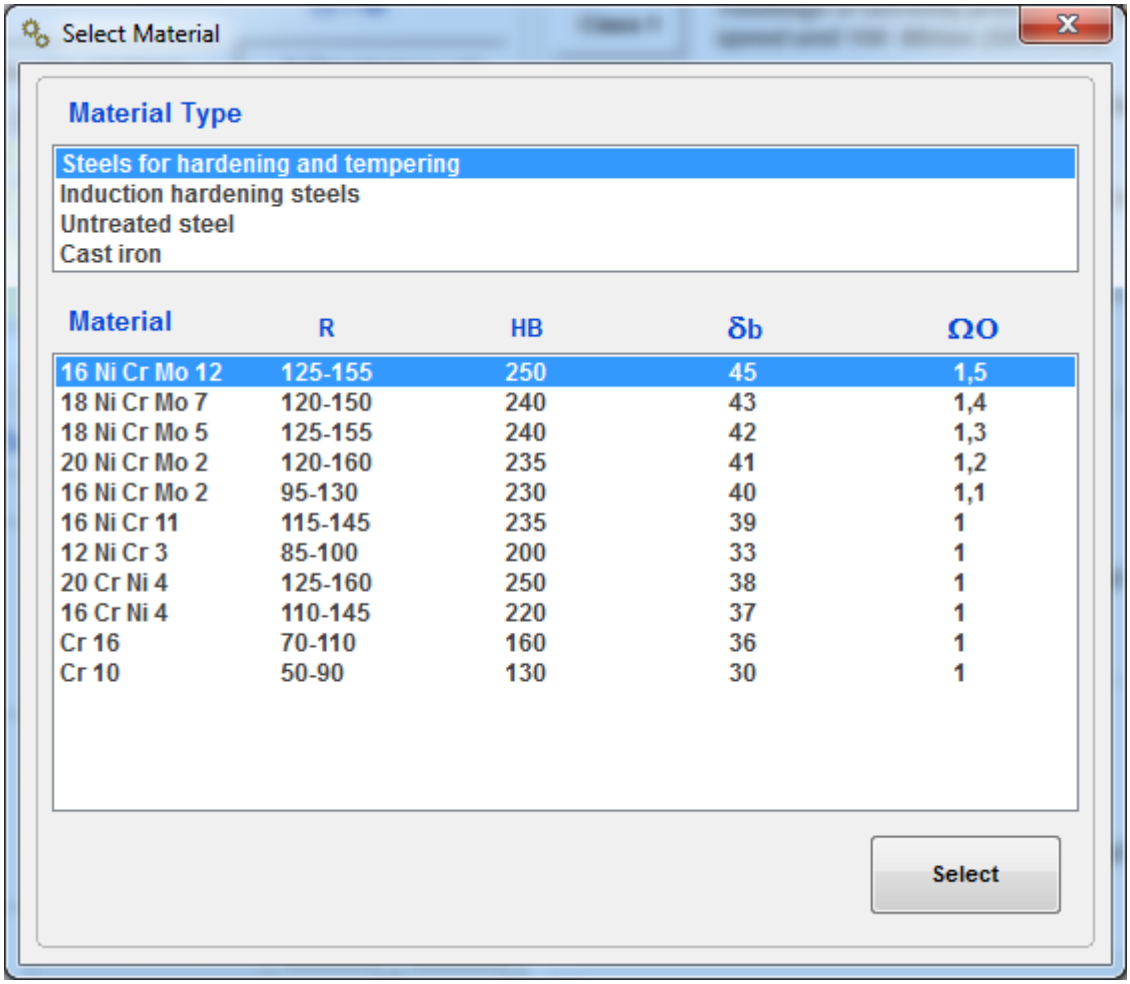


Fig. 41

Press the "Calculate" button and the results will be like those in fig.42

Dynamic Results

Print | Export Results

Final Data :

Geometric data

Transversal conduct ratio	1,4945
Contact ratio	2,5512
Total conduct ratio	4,0456
Velocity ratio	0,375

Inserted data

During (hours) 20000

Time %	Z1 Load daN	Z2 Load daN	Z1 N.Revolutions	Z2 N.Revolutions
50	20	53,333	1500	562,5
25	10	26,667	1000	375
20	1	2,667	10	3,75
5	5	13,333	100	37,5

Precision class 1
(Extreme precision V.P => 100 Mt/sec)

"Service factor ""KA""" 1

	PINION	CROWN
N. Teeth	15	40
Material of Construction	16 Ni Cr Mo 12	16 Ni Cr Mo 12

Dynamic data

N. Revolutions /1' medium		1007	377,625
Couple DaN*Mt		20	53,3333
During equivalent at pression	(H)	10078	
During equivalent at breaking	(H)	10004	
Minimum width band at pression	(mm)	92,3101	81,2593
Minimum width band at breaking	(mm)	59,4546	55,2717
Ratio band / Pitch diameter	(b/d1)	3,0303	
Reccomended band	**(mm)**	**93**	

Coefficients (common data)

Speed factor	Kv	0,951
Toothing inclination factor	CB	1,1711
Contact factor	Km	0,72
Service factor	Ka	1
Conduct factor	Ye	0,7519
Helix inclination factor	YB	0,87
Ratio factor	Cr	0,7273

Fig. 42

The program calculates the band 4 widths:
1) Breaking, (bending) of the pinion
2) Breaking, (bending) of the wheel
3) Compression (specific pressure of Hertz) of the pinion
4) Compression (specific pressure of Hertz) of the wheel
Obviously the highest value of these 4 is the width recommended by the program

He is for the user to decide what to do.

For example: a designer of transmissions for racing cars, normally considers a duration of a few hours (1 race), hence flies on the Hertz pressure and takes into account only the calculated flexural end (which is smaller, as shown by results).

Menu Setup: (fig.41)

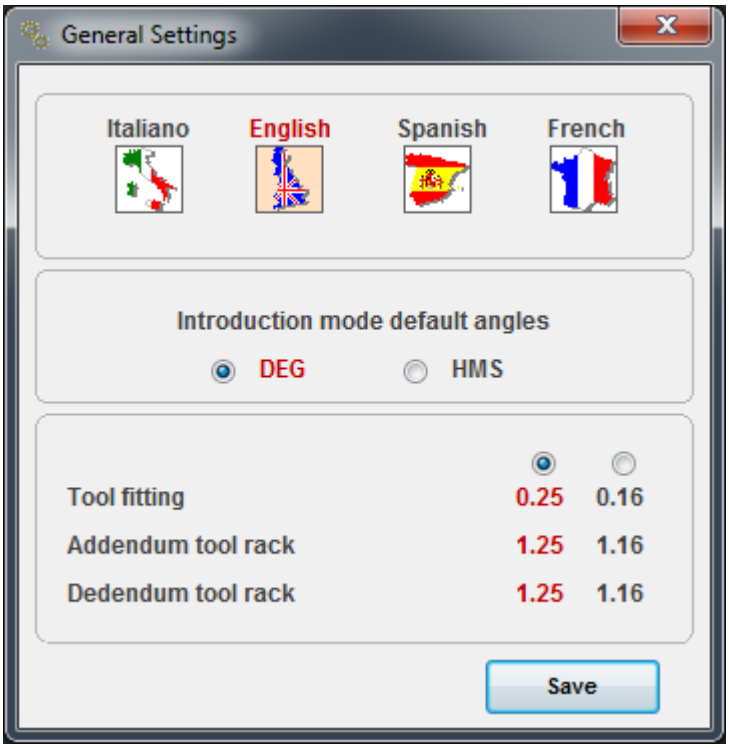


fig.43

You can set the default preferences so that they remain stored.
Set the preference degrees decimal or degrees, minutes, seconds for the introduction of the angles
(Pressure angle, helix angle etc.)
Set the radius tool rack
Set the addendum tool rack.
Set the dedendum tool rack.
Every time you start the program these values will be proposed by default, but you can always change the preference of locally entered data.

Menu setup: Print Settings
The program prints all the data necessary to the construction of the gears, select "Setup" you can still choose at any time the data that you want to print, the printed output so it is customizable to operator needs. (Fig.42)

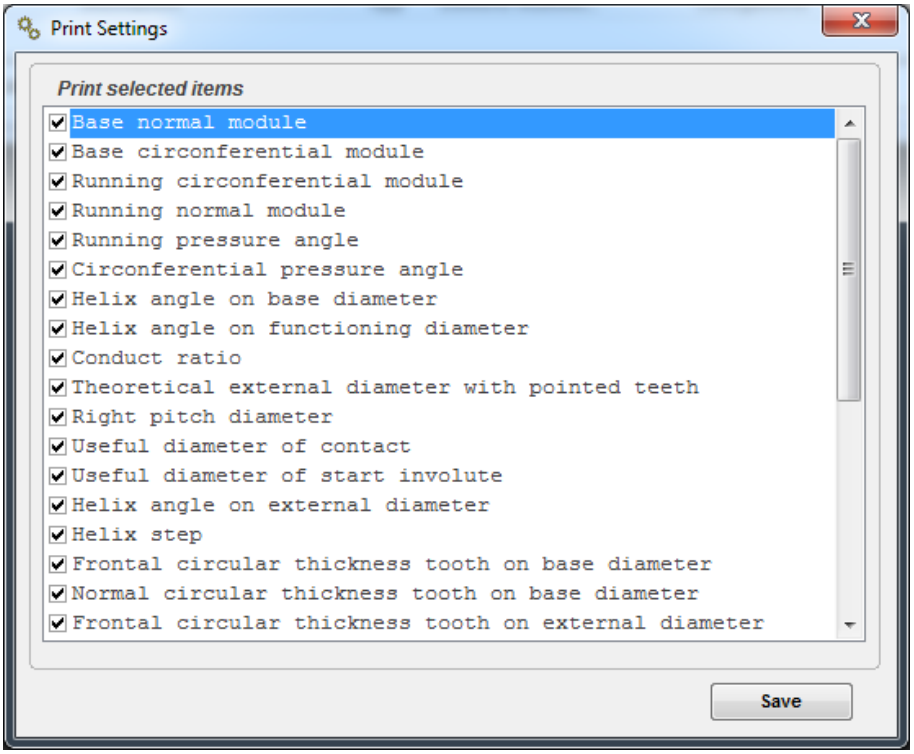


Fig.44

Select or clear the data that is to appear in the press.

The "SAVE" button allows saving the selection.

Help menu
If you select "Manual" you open the PDF file with the instruction manual

The entry "Information" provides the formations of the program version. (Fig.43)

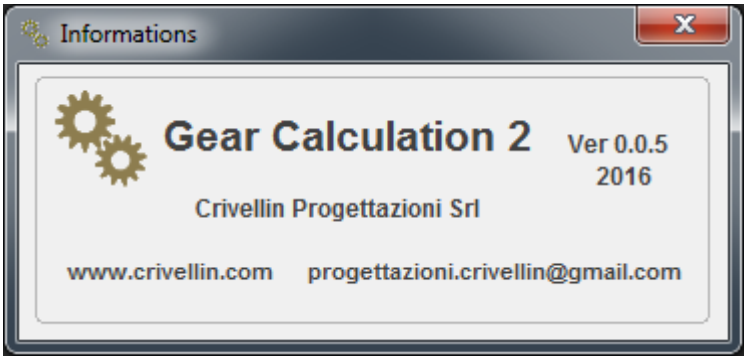


Fig.45

Program GEAR-1 INTERNI (Cylindrical gear pair, 1 internal)

The GEAR-1 NTERNI program varies little from Gear-1
It varies to some output windows which are the following:
Display window meshing (fig. 46)

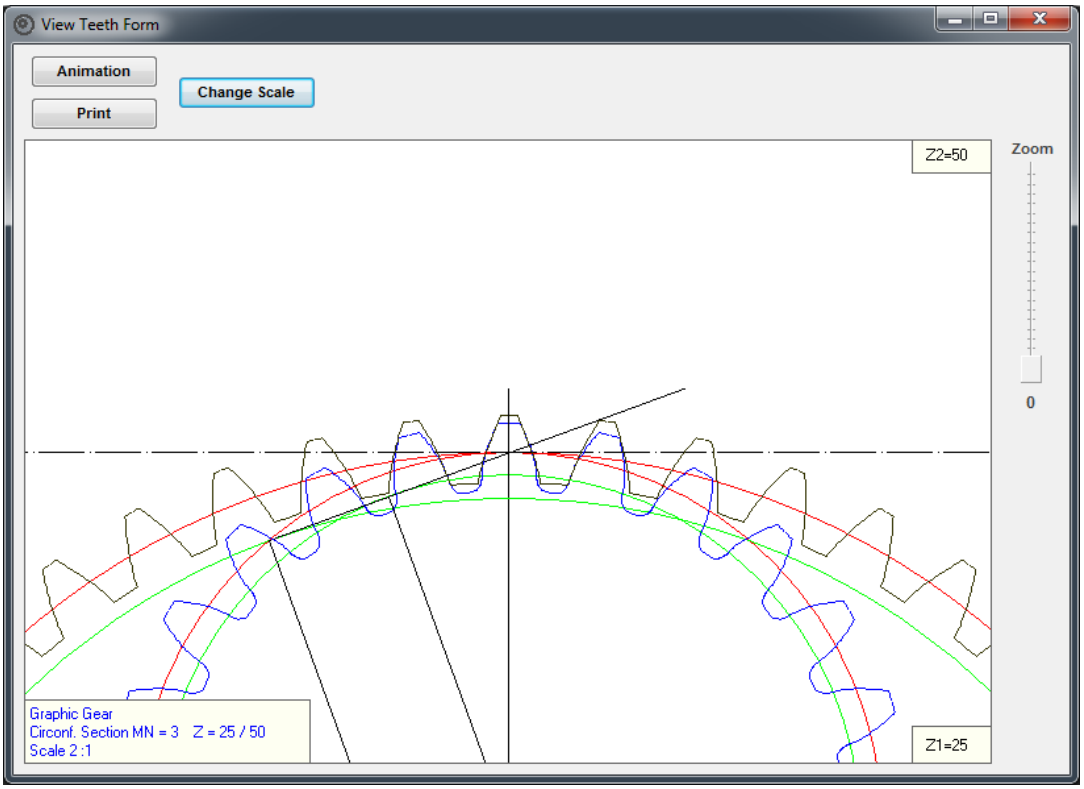


Fig. 46

Animation window, you can axially move the pinion to check graphically interference. (Fig. 47)

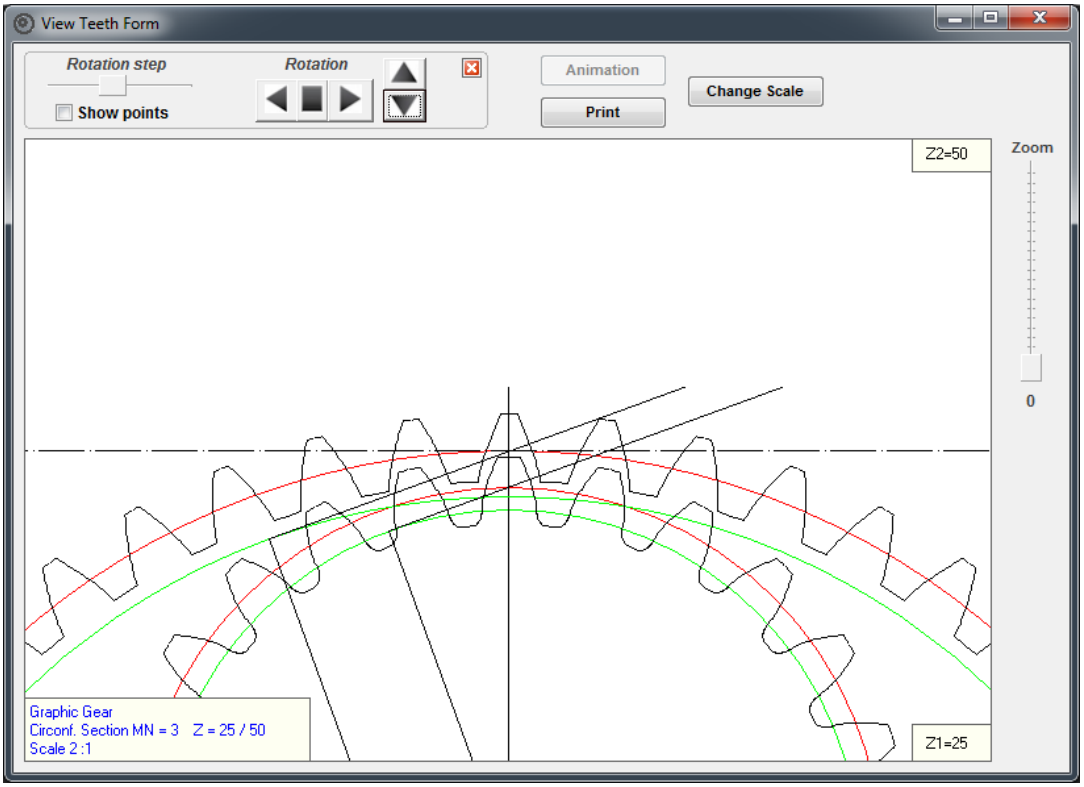


Fig 47

Menu View: Specific strip plot. (fig. 48)

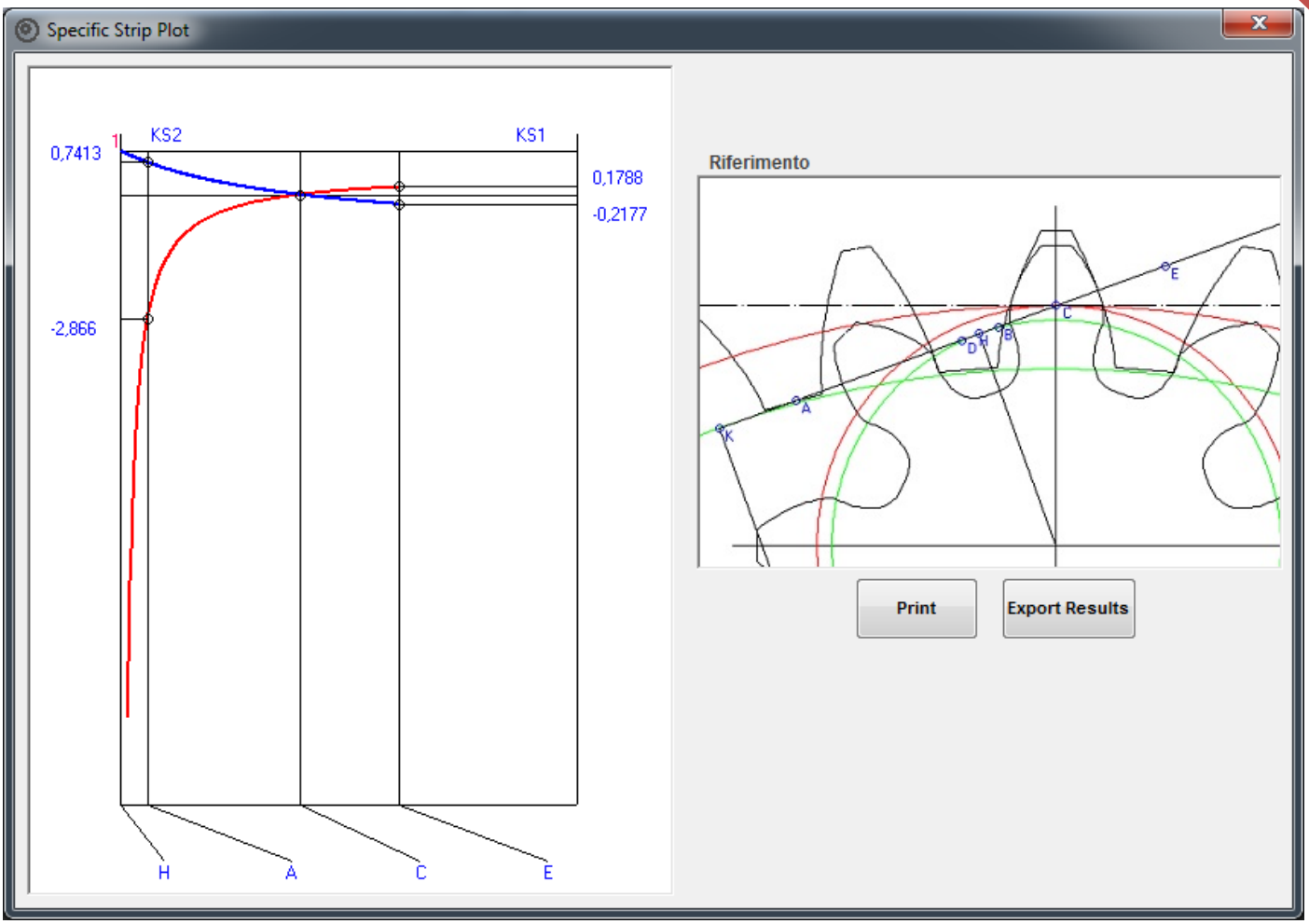


Fig. 48

Menu View: Factor of form (fig. 49)

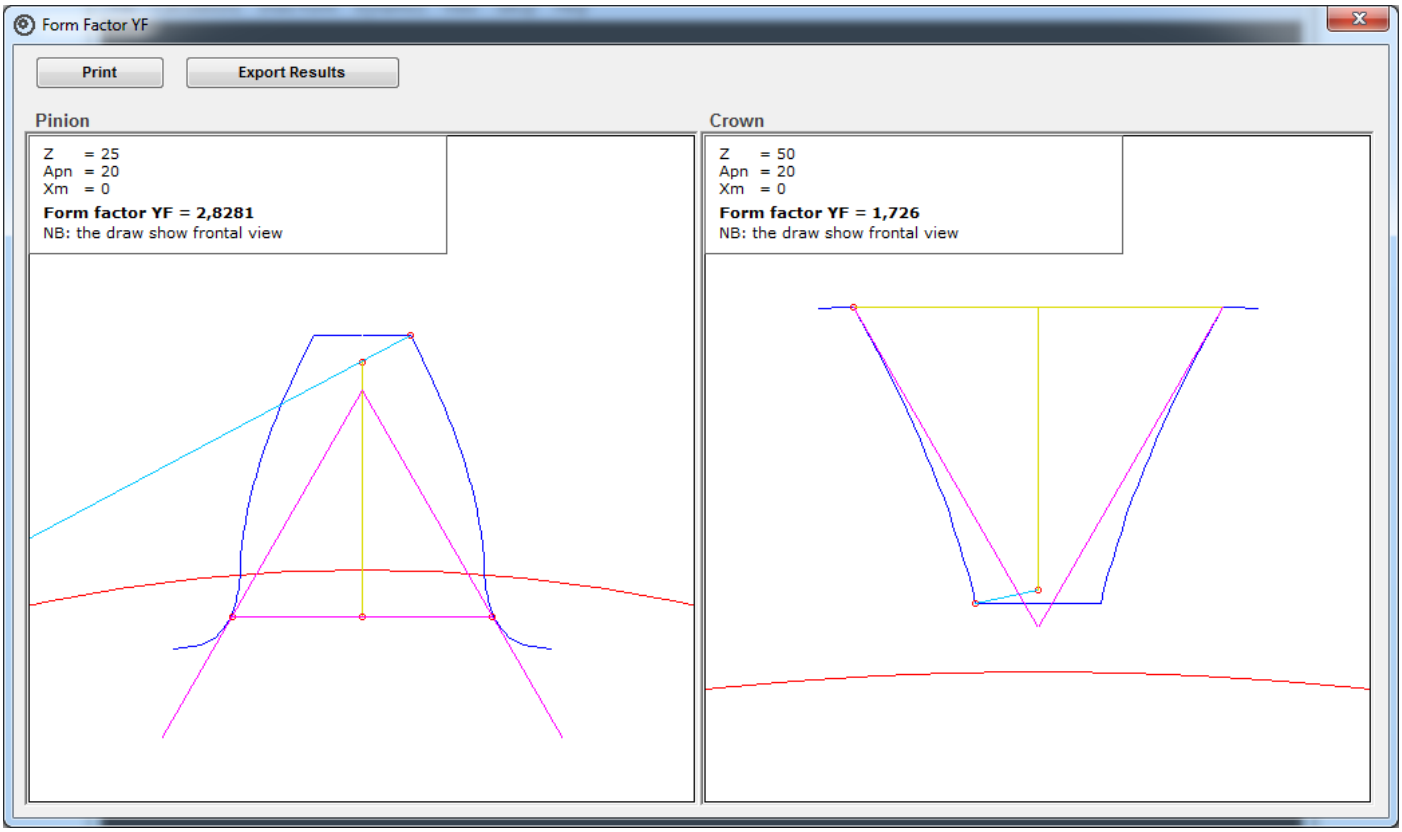
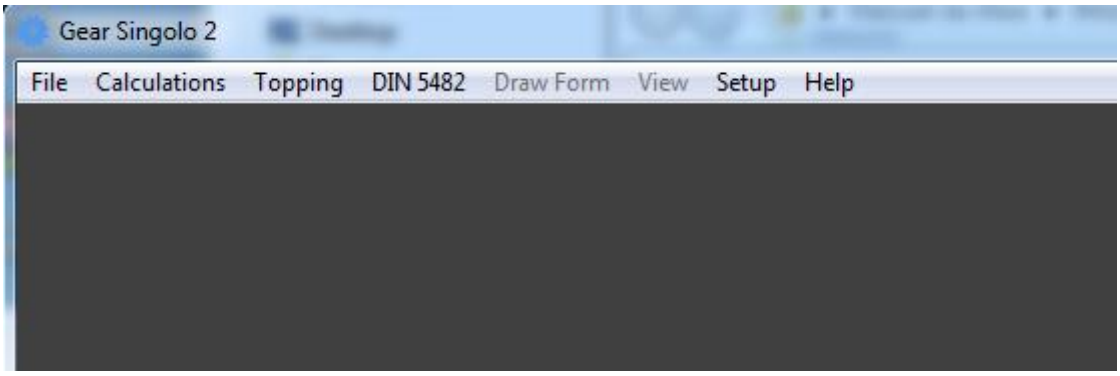


Fig.49

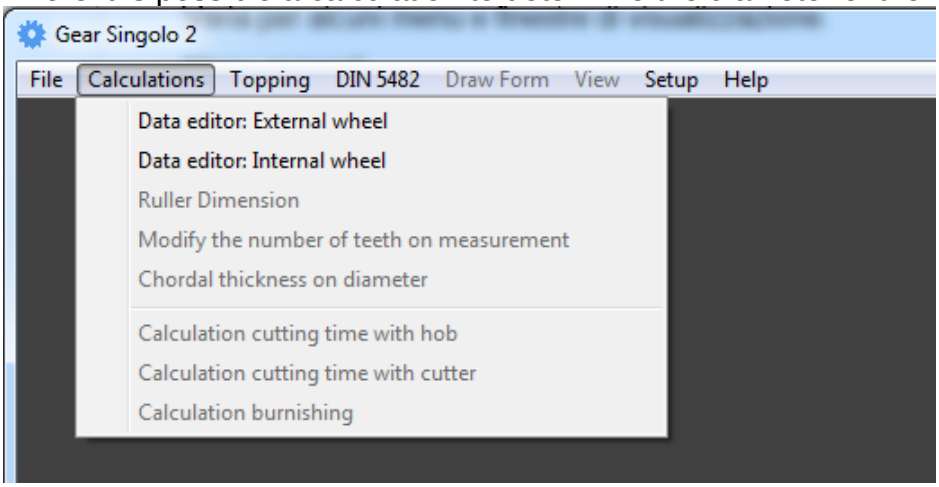
Program GEAR-1 SINGOLO (Arbitrary single gear)

The GEAR-1 SINGOLO program varies little from Gear-1
It varies for some menus and viewing windows.

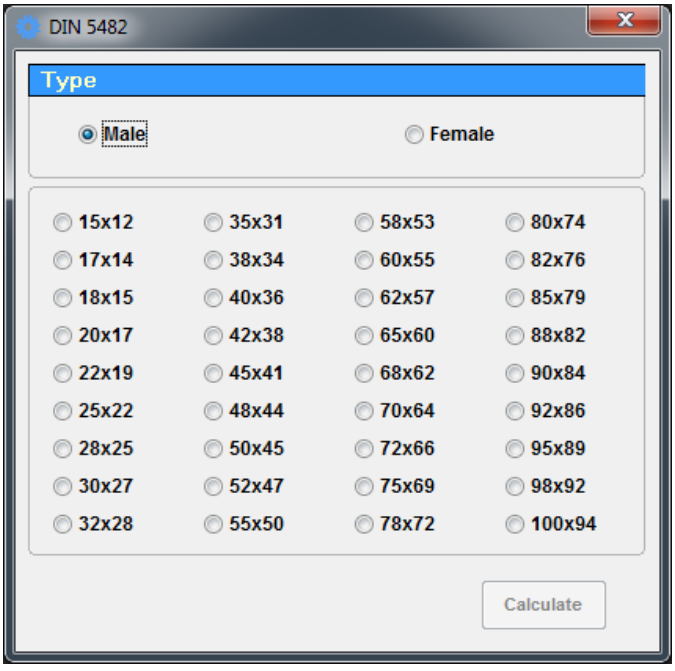
General menu:



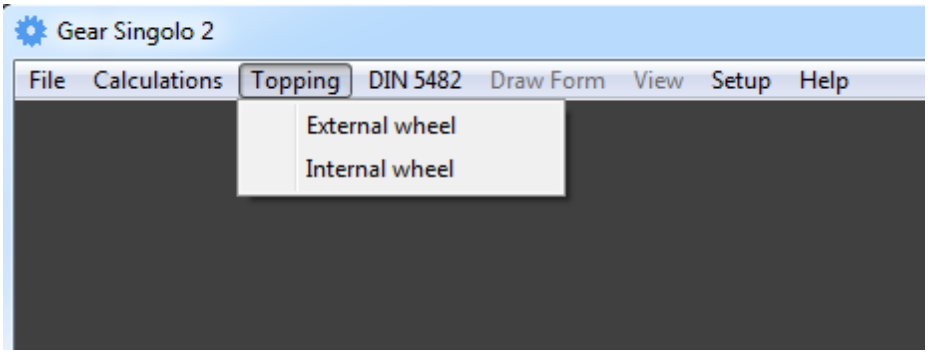
Menu Calculations
where it is possible a calculation to determine the diameter of the rolling of a gear



Menu DIN 5482, calculates the toothed profiles, male and female DIN 5482



Menu topping



From this menu you can calculate arbitrary profiles generated by an arbitrary tool rack.

The inner diameter and the outer diameter of the wheel are created from the tool rack-generator.

The GEAR 2 Single program is extremely flexible and is very useful in reconstructing a gear sample that you do not have the main data.

In the input box, you can impose:

The addendum, the dedendum, the circular thickness.

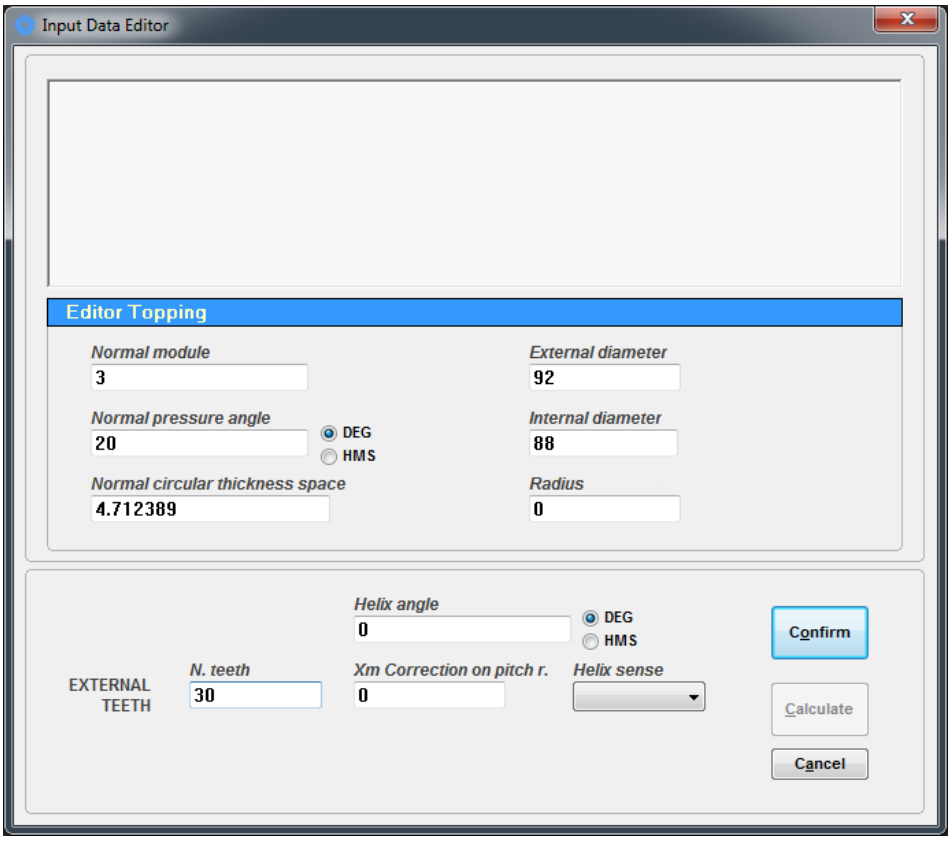
The tool rack-generator generates the profile, provided it is consistent and feasible.

Some examples:

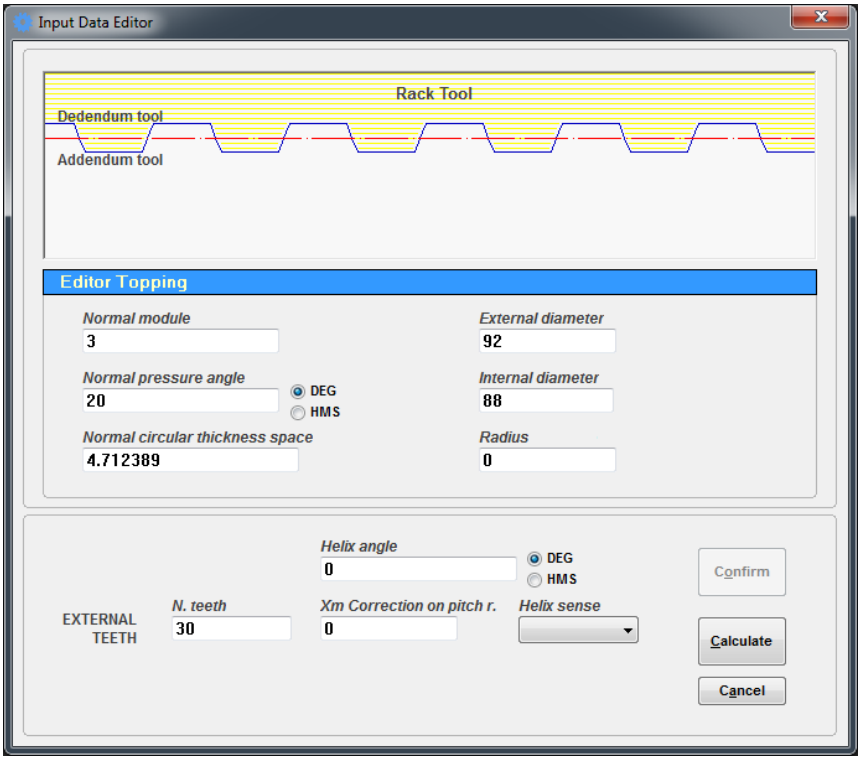
The input window accepts values that concern the tool generator and the wheel.

Until you press "Confirm" button the tool generator is displayed.

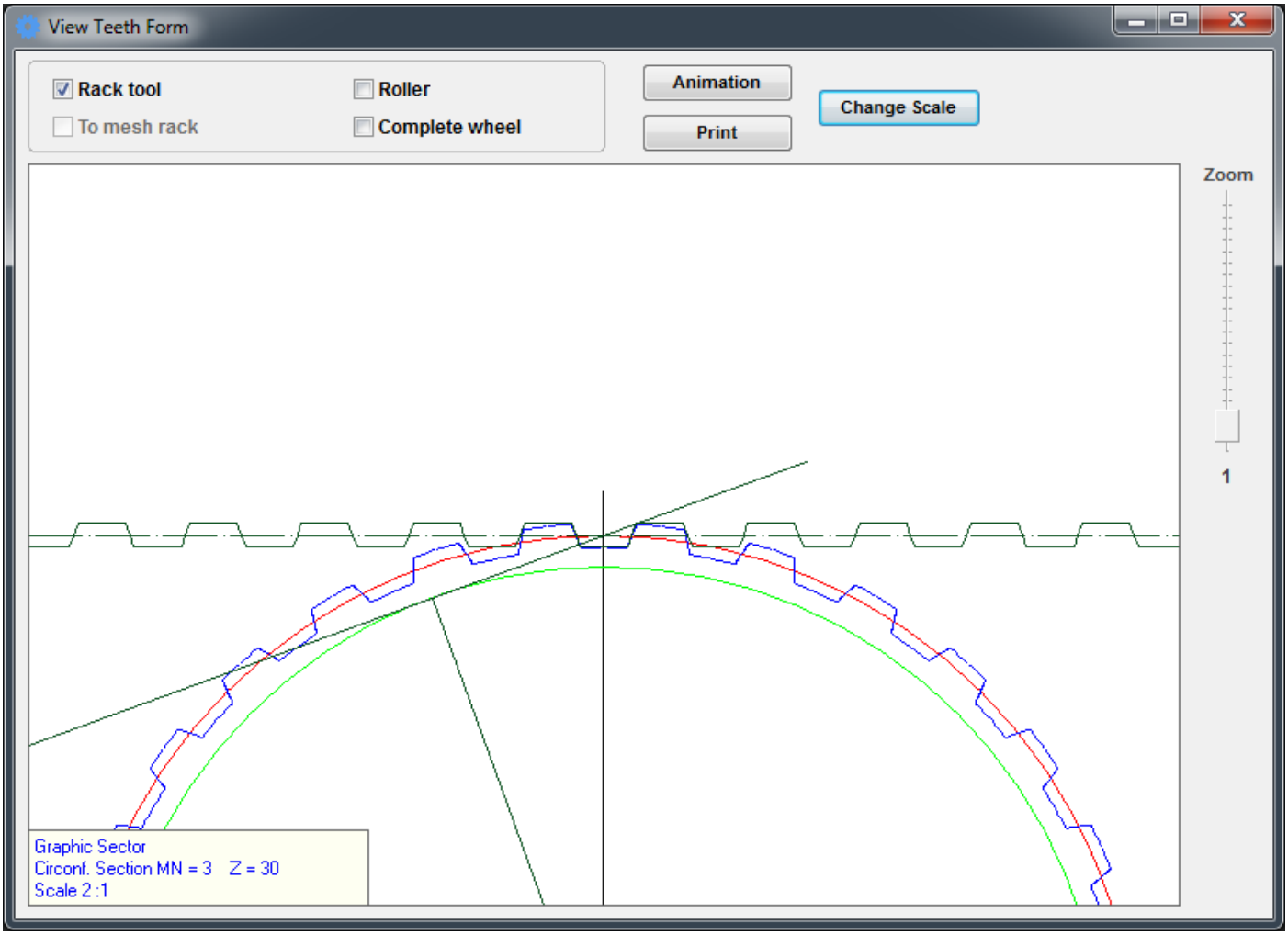
The program calculates the tool feasibility.



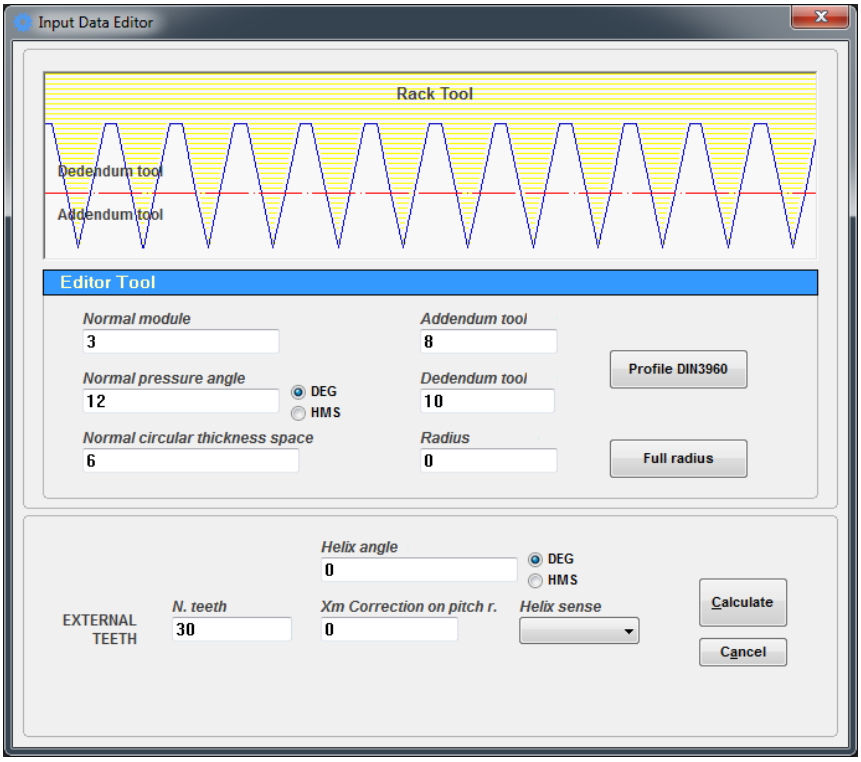
By pressing the "Confirm" appears the tool shape generator (if feasible)

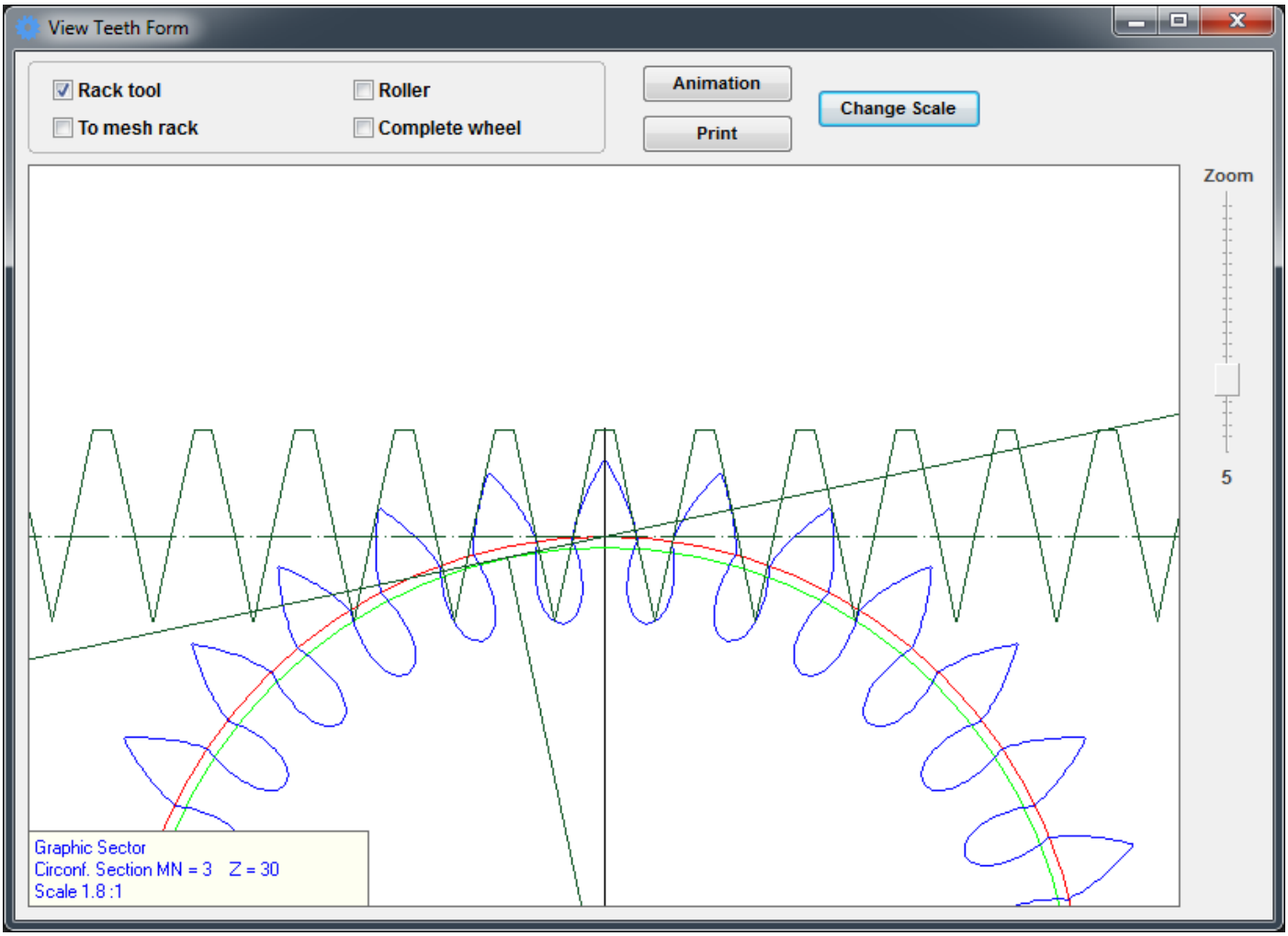


Press the "Calculate" button and the result is this:



Other examples:





Menu Calculations: Calculation burnishing

Calculate the diameter of the preparation for a gear that must be built for any rolling.

The program calculates EXACTLY the compartment area and the tooth (obtained for generation and not by approximation), then calculates the diameter in which the volume of the upper part of the full tooth corresponds to the void volume in the lower part of the tooth space.