

Automatic roll forming machines

Distinctive features of our equipment:

1) Our roll forming machines, from C8 to H75 models, have been in operation in Lipetsk for 10 years, 3 shifts a day, 3.5 thousand tons of profile production monthly - We invite you to visit Lipetsk!

2) We supply our roll forming equipment to the European Union.

3) <u>Shafts on the rolling machines are 100 mm in size, at least</u> (thinner shafts tend to sag, thus failing to roll the profile through its center). Rollers are made of tool steel (CT40X) with addition of chrome (GOST 4543-71). <u>High precision of tooling</u> is ensured by advanced mill/turn machines manufactured in the U.S. All components subject to heat treatment are hardened until the desirable HRC is reached.

4) Key-and-slot connection, typical for machine industry, is used to connect the roller and the shaft (shaft and roller slotted to accept keys); this <u>allows to avoid readjustment</u> issues with a rolling machine, while extending its lifespan



(unlike using pins, when the roller is fixed on the shaft with a screw, with spotting – new holes being drilled in the shaft to screw in during each readjustment on this machine).

5) For a consistently accurate profile geometry and equipment longevity we use <u>more metal per structure</u>. Seeking to reduce the amount of steel material can make the equipment less expensive but strongly not recommended as it affects the product quality, performance and service life of a machine.

6) Decoilers on our machines have their lifting capacity and drive power doubled, thus allowing to <u>handle heavier coils with the</u> required speed, and can operate being integrated with high-speed production lines.

7) Power section and electronics do not have Chinese components at all!

8) In our lines we realize a progressive combined rolling scheme, which brings together the advantages of rolling both synchronously (a full set of rollers installed on the shaft) and successively (a V-shape distribution from the center towards the edges).



Our progressive combined method for roll forming process has the following benefits:

- the material being rolled firmly held in position, without slipping right or left. In the front section of the rolling mill the profile is being held in position by corrugations in the center, and then, a full set of mate rollers on the shaft are used in the roll forming process;
 - the profile produced is GOST 24045-2010 compatible, i.e. meet the stricter requirements to the profile geometry (superseding GOST 24045-94);

- no herringbone defect on the profile edges, no rolled edges on the materials having different properties and fewer roll mill stands are <u>advantages of synchronous profiling</u> (full set of mate rollers on the shaft being in work).



9) The rolling mill is fitted with self-aligning UCP bearing units of shop fabrication, proved by time, (manufactured by TSC, Italy) replacing self-made bearings of worse quality, the alignment of which depends on the quality of casing, of bearing proper and on the accuracy of manual pressing (bearing runout and misalignment).

All bearing units are covered by a 3-year warranty; their minimum service life being 10 years.

10) Our rolling lines all feature an <u>automatic profile feeder</u> – after putting the material through the feeder and through the closest mill stand, it is automatically driven to the shears and cut, with the material wastage reduced to minimum. From this moment the line is running fully automatic. The operator has no need to manually position the material before the shears to make a test cut manually.

11) The control panel enables <u>25 operations performed on the machine in series</u> (instead of five). If paused at any point (e.g. coil replacement), the program will resume exactly from the point where it was suspended. Now it is possible to set up any program at one time, thus excluding the human factor when entering long instruction sequences by portions.

12) The scope of supply includes a kit of indicative and special tools used for machinery set-up and debugging.

13) Our trade-in scheme allows you to trade in your old equipment when purchasing new one!

Profile materials

Cold-rolled galvanized steel as per GOST 14918-80 ON, BT; rolled galvanized steel with protective-decorative coating as per GOST 30246-94 and GOST R 52146-2003 (cold-rolled hot-galvanized steel profile with additional polymer coating); sheared edge; 08Ю, 08пс steels. Material width – 1250 mm, material thickness from 0.35 mm to 1.20 mm (subject to the type of profile).

Material producers

Novolipetsk Steel (NLMK), Lipetsk, Russia Severstal (Cherepovets, Russia) ArselorMittal Temirtau (Temirtau) Magnitogorsk Iron and Steel Works (Magnitogorsk, Russia)

Advised production line lay-out:

- 1) Overhung decoiler, load capacity 10 tons, remote panel;
- 2) manual rotary shears (for quick coil replacement);
- 3) rolling mill (combined or synchronous profile forming method);
- 4) electric-power drive guillotine shears;
- 5) receiving device (stacking table);
- 6) Automatic Control System (ACS).





Overhung decoiler (RK-10 model)

Designed for continuous feeding of material from the coil to the rolling mill, the decoiler has its own control system that coordinate the material feed rate with the running speed of the rolling mill. It has a design compatible with metal coils made in China (those having the internal diameter of 500 mm).

Blades	3 (4)		
Electric motor power, kW	7.5 (15.0)		
Size, LxBxH, mm	2780 x 1730 x 1530		
Axial load (without supporting leg), kg	10 000		
Max. roll width, mm	1270		
Inside roll diameter, mm	480-620		
Max. outside roll diameter, mm	up to 1500		
Thickness of rolled steel, mm	0.31.5		
Max. linear speed, d=500 mm, meters per	40 (65)		
minute			
Reverse motion	Enabled		
Weight, kg	1 800		

A 7.5 kW power enables the decoiler to keep pace with the rate of a highperformance rolling mill, the weight of a coil being **10 tons**! With less power, e.g 5.5 kW, and rolls heavier than 4 tons, it WILL NOT BE CAPABLE of doing well (at a rolling rate exceeding 24 meters per minute the frequency inverter will give an error message and stop the drive to protect it from overloading).

RK-10 decoiler can be supplied with a <u>mobile trolley having a lift platform</u>. The trolley is employed when an overhead crane has to service several lines and constantly engaged.

Lifting capacity, kg	10 000
Platform lifting range, mm	from 800 to 1200
Hydraulic station	integrated
Hydrostation capacity, liters per minute	6.1
Tank volume, liters	25
Nominal pressure, kg per square cm	160
Traveling motor prower, kW	3
Trolley speed, meters per minute	6.5
Travel range, mm	1600
Size (without rails) LxHxS, mm	1350 x 1000 x 975
Basic rail length, mm	4 600

RK-10 decoiler can be equipped with a <u>hydraulic coil-unclamping</u> <u>mechanism</u> to move the blades together/apart just by pressing one button.

Electric motor power, kW	2.2
Liquid temperature, degrees	-40+60
Max pressure, MPa	19
Working liquid flow rate, liters per minute	6.1

All decoilers feature a <u>control system (ACS)</u>, which enables its operation either manually or automatically.

In manual mode, the decoiler can be rotated forwards or backwards, at low speed (26 Hz).

When in automatic operation, there are 3 speeds available: 25-37-50 Hz (speed of rotation depends on material sagging).

The decoiler can be promptly stopped using the Emergency stop button. The decoiler can receive feedback from the rolling mill – in case of failure or emergency it will be automatically stopped.

Power section and electronics do not have Chinese components at all!





Shears for quick roll removal

These shears are designed for cutting strips off a roll (e.g. if you need to replace it quickly). The basic package by default has <u>hand driven shears</u> – which we do not recommend as, when cutting, the operator is needed nearby to hold the tail of a roll.

With our Automatic Control System (ACS), the rolling mill will be stopped at the exact spot where the last strip of the batch (order) being formed is desired. When cut, the remaining strip of metal is left on the rolling mill to be completely processed and included in an order, thus making the machine unoccupied.

For the operator's convenience, the shears can be upgraded with an <u>electric motor</u>.

Electric motor power, kW	0.55
Supply voltage, V	380
Metal thickness, mm	0.35-0.80

Laminating machine (used to apply film prior to rolling)

This machine allows to fix the roll of a protective film and apply this film on a smooth sheet of metal prior to profiling.

Film application before rolling protects the painted surface of a metal from possible damage when transporting, handling and installing the profile on site.

Profile rolling mill

Its main function consists in forming a profile of some desired shape from a smooth strip of metal; this can be achieved by profiling the material using all forming rollers at once or in a combined manner (as per GOST 24045-10 which enforces the stricter requirements regarding the profile quality). The frame of the rolling mill have stands of rolls, profile shears, material feeder equipped with shears for cutting smooth sheets of metal, and electric motor.

		Max speed		Dimensions, mm			Electric
Profile type	Mill stands	meters per minute	Weight, kilos	Length	Width	Height	motor power, kW
<u></u>	10	50	5 650	7 500	1660	1200	7.5
0	13	50	6 900	9 000	1660	1200	7.5
	10	55	5 600	7 100	1660	1200	
	12	50	6 700	8,500	1660	1200	
C10	13	50	7 100	8 900	1660	1200	7.5
	15	50	7 500	9 900	1660	1200	
	16	50	7 900	10 200	1660	1200	
C15	18	50	9 700	9 870	1660	1290	7.5
C18, C20,	13	50	6 800	9 100	1660	1290	75
C21	16	50	9 400	10 600	1660	1290	7.5
HC35	16	30	12 500	10 500	1660	1290	11
H44	16	30	12 700	11 600	1660	1290	11
H57	23	30	16 000	15 500	1660	1290	2 x 11
H60	23	30	16 000	16 000	1660	1290	2 x 11
H75	27	30	19 500	19 000	1660	1290	2 x 11
H114	36	30	60 000	35 000	1660	1300	4 x 15
H153	44	30	80 000	46 000	1660	1500	8 x 15





<u>High accuracy of machining on working tools</u> is achieved through using new lathe-machining centers of the U.S. origin, with Swedish metal-cutting tools installed on them.

Profiling rate, meters per minute	max 50 (to be agreed in TOR when ordering)			
Feeder	two shafts and table with guides			
Rotary shears	in scope of supply, up to 0.8 mm			
Shaft size, mm	min 100			
Rollers material	tool steel CT40X, GOST 4543-71			
Tool mounting system	Key-and-slot, mill stand adjustable in all planes			
Shafts drive	single- or double-chained with tensioner			
Belt movement sensor	To increase measuring accuracy at high rates, the optical encoder with the components made by Hengstler (Germany).			
Motor control system	ACS with touch panel			
Precision of profile geometry	as per GOST 24045-10, GOST 24045-94			

For installation purposes, in case of uneven surface, the machinery is <u>fitted</u> with special legs, height adjustble.

Guillotine shears (or slugger shears)

Shaped blades enable cutting the profile of desired length, doing the job reliably. If the profile to be cut is too corrugated, the shears of slugger type can be employed easily (actuated hydraulically or electrically). The shears are mounted on the frame of the rolling mill.

Installed capacity, kW	from 3.0
Metal thickness, mm	0.3-1.2
Blade shape	Dovetail
Blade position sensors	non-contact
Blade material	XBF steel (tool steel), hardening
	5560 HRC9
Length of products to be cut	any
Dimensions, LxBxH, mm	440x1550x1150
Weight, kg	from 500

For good quality of profile cutting we use <u>dovetail blades</u>, i.e. the profile is being cut from edges towards its center. Unlike conventional guillotine shears (where the product is being cut across, from one edge to the other), the blades shaped as a dovetail do not shift the profile during cutting.

<u>For large corrugations</u> (starting with H57), the shears has a more rigid design, and driven by the motor of greater power. When operating, such shears punch a residue of 6 mm in width, as minimum (slugger shears).

For certain profile types it is possible to furnish the line with hydraulic shears.





Receiving device

It is intended to accept the profile cut to measure and packaging it as a finished product for storage. The length of the receiving device – as specified by the customer (up to 12 meters long)

For profile products having corrugations below 35 mm, we supply receiving tables without a recoil trolley; the product being accepted by 1 worker.

Starting with a HC35 profile, we furnish receiving tables with a recoil trolley (as one person can hardly manage it when trying to hold the edge of a profile).

Your line can be equipped with an <u>automatic stacker and trolleys</u>. Finished products can be removed from the line:

- through the top by overhead crane;

- using a trolley on tracks to roll the batch out.

Alternatively, for removing finished products off the line the customer may also choose lateral unload capability. The length of the receiving device is to be specified when making an order.

Stacks of finished profile can be wrapped in plastic using a <u>fully-automated</u> <u>packager unit</u>. The unit comprises a packaging machine which is positioned between two roller conveyors. A bunch of profile being wrapped is fed through the machine at constant rate.

Automatic Control System (ACS)

The line is fitted with an <u>ACS of industrial make</u>, of components supplied from manufacturers in Europe only (Siemens, Schneider Electric, RITTAL), and featuring a touch panel.

The ACS is supported by original software designed for high precision of cutting, ±1mm allowance per 6 meters, provided the profile material guality is ideal, and the line utilizes high-performance machinery.

The ACS has three modes of operation:

In "manual mode" each device is controlled individually (e.g. blade moving up/down).

"Automatic feed mode" – after putting the material through the feeder and through the closest mill stand, it is automatically driven to the shears and cut, with material wastage reduced to minimum.

In "Automatic mode" the operator can program up to 25 instructions at once. When forming the last piece of profile instructed by the program, the machinery will be stopped for a moment to make an "intake cut" (for cutting the roll, forming the last piece of profile in a batch and removing the profile from the rolling mill).

ACS keeps the log of operation and allows exporting these data via USB for review, including 1C Accountant Suite compatibility (this functionality to be agreed with the customer).

Industrial make, <u>no Chinese components in the power section and</u> <u>electronics</u>!!!





11010	jeu		Machiner	y price, RUB (V	AT included)
Profile type			Stands, thickness	Business 40 m/min	Luxe 50 m/min
C8	.52-1150	$10 \times 115 = 1150$ $115 = 52.5$ 62.5 62.5	10 stands from 0.4 mm to 0.6 mm	2 040 000 (32 000 \$)	-
	ö	<u>1190±8</u>	13 stands from 0.35 to 0.6 combo	2 190 000 (34 200\$)	2 880 000 (45 000\$)
	C8.53-1170	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	13 stands from 0.35 mm to 0.6 mm combo	2 190 000 (34 200\$)	2 880 000 (45 000\$)
	.43-1127	11 x 102,5 = 1127,5 102,5 43,25 42	10 stands from 0.4 mm to 0.6 mm	2 040 000 (32 000 \$)	-
	C8	1190±8 43,25	13 stands from 0.35 mm to 0.6 mm combo	2 190 000 (34 200\$)	2 880 000 (45 000\$)
	C8.39-1100	$\begin{array}{c} 1200\pm 8\\ \hline 1100\pm 5\\ \hline 39 \\ \hline \end{array}$	13 stands from 0.35 mm to 0.6 mm combo	2 190 000 (34 200\$)	2 880 000 (45 000\$)
C10	.70-1100	1134 100x11=1100 6	ts 35 10 stands from 0.4 mm m to 0.6 mm	2 030 000 (32 000\$)	-
	C10	2 17	13 stand from 0.3 mm to 0.6 m combc	2 180 000 (34 000\$)	2 870 000 (44 800\$)
	40-1100	1155 1100 100 40	 5 12 stands from 0.4 mm 10 0.6 mm 	2 150 000 (33 600\$)	-
	C10.	45	15 stand from 0.3 mm to 0.6 mr combo	2 290 000 (36 000\$)	2 960 000 (46 200\$)
	.45-1100	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	i 13 stands from 0.4 mm t to 0.6 mm	2 190 000 (34 200\$)	-
	C10	<u>45</u> 1155±8	16 stands from 0.35 mm to 0.6 mn combo	2 370 000 (37 000\$)	3 030 000 (47 200\$)
	60-1150	1150 104,5 60 20 \$1 1195	5 10 stands from 0.4 mm r to 0.6 mm	2 030 000 (31 700\$)	-
	C10.		13 stand from 0.3 mm to 0.6 mr combo	2 190 000 (34 200\$)	2 870 000 (45 000\$)
	3-1100		10 stands from 0.4 mm to 0.6 mm	2 030 000 (31 700\$)	-
	C10.43	100 43 11 x 100 = 1100 2 1155	13 stands rom 0.35 mr to 0.6 mm combo	2 190 000 (34 200\$)	2 870 000 (44 800\$)

Here you can find the current prices on our profile production lines (prices for june 2016)



Drofile type		Machinery price, RUB (VAT included)			
	Prome type		Stands, thickness	Business 40 m/min	Luxe 50 m/min
C10	$\begin{array}{c} 100 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	11 x 100 = 1100 100 20 70 1160	13 stands from 0.4 mm to 0.6 mm	2 290 000 (36 000\$)	-
		16 stands from 0.35 mm to 0.6 mm combo	2 490 000 (39 000\$)	3 090 000 (50 000\$)	
	C10AB-1180 C10R-1150	1180±8 1180±8	12 stands from 0.4 mm to 0.6 mm	2 270 000 (36 000\$)	-
		143,8x8=1150,4 143,8	15 stands from 0.35 mm to 0.6 mm combo	2 440 000 (38 000\$)	2 990 000 (47 000\$)
	C10.86-1147	114.7 <u>+8</u> <u>14.3,5</u> 86	12 stands from 0.4 mm to 0.6 mm	2 150 000 (34 000\$)	-
		1192±8 \$ 30 _ 23	15 stands from 0.35 mm to 0.6 mm combo	2 290 000 (36 000\$)	2 930 000 (46 000\$)
	:10.33-1100	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12 stands from 0.4 mm to 0.6 mm	2 150 000 (34 000\$)	-
	0	$\frac{10^*}{10^*}$	15 stands from 0.35 mm to 0.6 mm combo	2 290 000 (36 000\$)	2 930 000 (46 000\$)
C13	C13-1150	$\begin{array}{c} 1170 \\ \hline 7 \times 164,3 = 1150 \\ \hline 30 \end{array}$	14 stands from 0.4 mm to 0.6 mm	2 320 000 (37 000\$)	-
0	-		17 stands from 0.35 mm to 0.6 mm combo	2 470 000 (39 000\$)	2 990 000 (47 000\$)



Drofile type		Machiner	y price, RUB (V	AT included)	
		Profile type	Stands, thickness	Business 40 m/min	Luxe 50 m/min
C15	5-1000 (1250 mm) 15-800 (1000 mm)	$\begin{array}{c} 10 \times 100 = 1000 \\ \hline 100 \\ \hline 20 \\ \hline 30 \\ \hline 30 \\ \hline 1058\pm 8 \\ \hline 8 \times 100 = 800 \\ \hline 10 \\ \hline 100 \\ \hline 1$	n 18 stands from 0.4 mm to 0.6 mm	2 580 000 (41 000\$)	3 130 000 (49 000\$)
	CH1 CH	$\frac{100}{30}$ $\frac{20}{843\pm8}$ $\frac{14}{14}$	21 stands from 0.35 mr to 0.6 mm comb0	2 760 000 (43 000\$)	-
C18	3.20-1150	∞ 1190 1150 20	16 stands 0.4 mm to 0.6 mm	2 340 000 (37 000\$)	2 890 000 (45 000\$)
	C18		19 stands 0.35 mm to 0.6 mm combo	2 560 000 (40 000\$)	
C20	18-1100 "wave"	92-100 wave: 292-100 292-100 202-1	16 stands from 0.45 mm to 0.6 mm	2 640 000 (42 000\$)	3 190 000 (50 000\$)
	ပ		19 stands 0.4 mm to 0.6 mm combo	2 890 000 (45 000\$)	-
	MP20 ABR-1100	$8 \times 137,5 = 1100$ $137,5 = 35$ 1150 1150 1150 $137,5 = 67,5$ 1150 $8 \times 137,5 = 1100$ $8 \times 137,5 = 1100$	16 stands from 0.35 mm to 0.6 mm	2 490 000 (39 000\$)	2 990 000 (47 000\$)
		20 10 35 21 16 67,5 1150 ∞			
C21		1080 135 27,5	13 stands from 0.4 mm to 0.7 mm	2 190 000 (35 000\$)	-
	C	59,5 1105	17 stands 0.35 to 0.7 mm combo	2 430 000 (38 000\$)	2 980 000 (47 000\$)
	C21-1000	$10 \times 100 = 1000$ $100 - 35 - 65$ 1051 ± 8	17 stands 0.35 to 0.7 combo	2 430 000 (38 000\$)	2 980 000 (47 000\$)



Dasfile turne			Machinery price, RUB (VAT included)		
Prome type			Stands, thickness	Business max 30 m/min	
HC35	HC35-1000	5 x 200 = 1000 200 70 130 1060	16 stands from 0.5 mm to 0.8 mm	3 190 000 (49 800\$)	
H44	4-1000	$\frac{5 \times 200 = 1000}{R5}$	16 stands from 0.5 to 0.8	3 180 000 (49 600\$)	
	H H	<u>200</u> <u>100</u> <u>1045±8</u>	22 stands from 0.5 to 0.8 cascade	3 640 000 (56 800\$)	
HC44	HC44-1000	76 76 76 76 76 76 76 76 76 76 76 76 76 7	20 stands from 0.5 mm to 0.8 mm cascade	3 550 000 (55 400\$)	
C44	C44-1000	$5 \times 200 = 1000 \pm 8$ 33 51 ∓ 777	16 stands from 0.5 mm to 0.8 mm	3 180 000 (49 600\$)	
H57	H57-900	900 44 144 93 238 212 42 960 144 93	20 stands from 0.5 mm to 0.8 mm cascade	4 470 000 (69 700\$)	
H60	H60-845	902 50 -122 $89,5$ $4 \times 211,2 = 845$	23 stands from 0.6 mm to 0.9 mm cascade	4 650 000 (72 500\$)	
92H	H75-750	800 750 187,5 95,5 92	27 stands from 0.6 mm to 0.9 mm cascade	5 360 000 (83 600\$)	
H114	H114-600		36 stands 1 250 mm 0.6 mm to 1.0 mm	16 630 000 (260 000\$)	
		646	36 stands 1400 mm 0.6 mm to 1.0 mm	21 140 000 (330 000\$)	
H153	H153-840	$\begin{array}{c} 119 \\ 280 \\ 840 \\ 895 \end{array}$	44 stands from 0.7 mm to 1.5 mm	29 850 000 (466 000\$)	



To save space in your production area it is possible to manufacture multi-level lines. The sketch below presents the two-level designs for MP20 and C8 lines (having 17 and 13 mill stands respectively), with their dimensions indicated. Other equipment on the line include lift trolley and automatic stacker which allow to roll finished products forward out. It should be understood that such a line can produce only one profile at the same time – the simultaneous rolling of two profiles being impossible.



Prices on complete packages of two-level lines (in standard configuration): C8 (13 stands) + C21 (17 stands) - **RUB 4 150 000 (65 000\$)**; C8 (13 stands) + MP20ABR (16 stands) - **RUB 4 210 000 (66 000\$)**; C10 (15 stands) + C21 (17 stands) - **RUB 4 250 000 (66 500\$)**.



Prices on optional equipment:

- 1) RK-10 overhung decoiler, instead of double-leg type RUB 170 000 (2 700\$) extra;
- 2) 10-ton hydraulic lift trolley for decoiler RUB 560 000 (8 800\$);
- 3) Hydraulic drum release feature for overhung decoiler RUB 250 000 (3 900\$);
- 4) Set of wheels for decoiler movement on rails (without trackway) RUB 68 000 (1 100\$);
- 5) Rotary shears, electrically driven (instead of manual type) RUB 50 000 (780\$);

6) Automatic stacker with profile unloader, upward-forward unloading (instead of receiving table) - RUB 110 000 (1 800\$);

- 7) Automatic stacker with profile unloader, forward-sideward unloading (instead of receiving table) RUB 110 000 (1 800\$);
- 8) Machine for film application on smooth material prior to rolling RUB 45 000 (700\$);

9) Fully-automated packager unit – prices start from RUB 380 000 (6 000\$) (packager model to be specified by the customer);
10) Improved capacity (25 meters of profile per minute) provided the length cut is 2000 mm (fencing made by C8-C10) – RUB
120 000 extra (1 900\$);

11) Machine for cutting to length (to make pieces of material of the desired length before profiling; integrated in the line) – RUB 630 000 (9 900\$);



Machine for cutting to length comprises:

1. Feeding device with film applicator;

2. Guillotine shears (capable of cutting metal pieces up to 1.2 mm in thickness)

3. Receiving table or Automatic stacker (optional).

The decoiler and the automatic control system are both taken from our rollforming line. The roll is put on the decoiler, and the strip of metal is then fed for cutting to length or directly to the roll-forming mill. The control panel of the roll-forming line has a switch to select the direction of strip movement. Cutting accuracy ± 1 mm.

12) To make profile products <u>with round top edges</u> we offer a machine of the manual feed type. The profile shaped on this machine can be used as fencing. Actually, the edges can be made of any shape (this depends on the geometry of a profile).

The machines comprises a receiving table and 3D shears. Edge cutting starts by pressing the foot lever.

The cost of the machine (one pattern cut) – **RUB 750 000 (12 000\$)**. Additional blades for more edge patterns – **RUB 250 000 (4 000\$)**.





This machine allows you to make customized profile products with RUB 30 extra price per item!

Suppose a fence, 30 meter long, built of 27 profile sheets. With RUB 30 extra to ordinary price due to shaped edges you will receive RUB 810 more. Making 2 fences a day equals to RUB 1620 daily. Calculating the multiple of 22 business days and 10 months, we receive the annual total of RUB 356 000. So, the return of investment period shall be 2 years + an increased product range.

Warranty – 3 years (all units covered, <u>including bought bearings, motors, gears, and other components</u>); Commissioning and personnel training are included in the total price of equipment (<u>including travel and lodging costs</u>); Terms of payment: 10% - advance payment, 90% - upon acceptance of equipment in Lipetsk.

Equipment delivery: by truck: one line fits in one covered truck, 12 meter long; by rail: one line can be transported in one 40 ft. container For lines with profile higher than 44 mm one more transportation unit will be required.