

# EQUIPMENT FOR CARTRIDGE CASE MANUFACTURING

## Press PVR-100

### Function

is intended for blanking of parts from strip material.

### Function operations

- Blanking

### Technical features

Production rate, pcs per minute	700
Power consumption, kW	15.64
Compressed air consumption, m³/h	10.5
Capacity of press, ton-force	100
Traverse stroke, mm	30
Ram stroke frequency, min⁻¹	140
Feed pitch of material: maximal / minimal, mm	40 / 17
Voltage, V / Current frequency, Hz	380 / 50
Overall dimensions without packing, LxWxH, mm	2800x1700x2900
Net weight, kg	13170



## Machine SPG-1

### Function

is intended for the manufacture of billets of the first and second drawing, recrystallization annealing of billets after the second drawing and further cooling.

### Function operations

- First cupping/drawing
- Recrystallization annealing
- Second drawing
- Cooling

### Technical features

Production rate, pcs per minute	200+20
Quantity of air aspirated by exhaust ventilation, m³/h	600
Operation factor, not less than	0.85
Power consumption, kW	62.56
Water flow rate, m³/h	4.3
Compressed air consumption, m³/h	8.7
Overall dimensions without packing, LxWxH, mm	3730x1050x2720
Net weight, kg	7300±50



## Machine SPG-2

### Function

is intended for third and fourth drawings, and for first and second cutting of cartridge case billets.

### Function operations

- Third drawing
- Fourth drawing
- First cutting
- Second cutting

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	29.8
Water flow rate, m³/h	2.3
Compressed air consumption, m³/h	0.66
Overall dimensions without packing, LxWxH, mm	3748x1050x2720
Net weight, kg	7200



## Machine SPG-3

### Function

is intended for the manufacture of cartridge case billets by press forming.

### Function operations

- First forming
- 100% automatic check of primer pocket depth
- Second forming
- 100% automatic check of anvil depth
- 100% automatic check of primer pocket diameter
- Flash hole piercing
- Edge finishing of flash hole
- 100% automatic check of flash hole presence

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	20.93
Water flow rate, m³/h	0.5
Overall dimensions without packing, LxWxH, mm	4435x1065x2375
Net weight, kg	7700



# EQUIPMENT FOR CARTRIDGE CASE MANUFACTURING

## Machine SPG-4

### Function

is intended for tapering of cartridge case billet.

### Function operations

- Mouth annealing
- Cooling
- Pickling
- Rinsing
- Phosphatization
- Saponification
- First tapering
- Second tapering
- Rinsing
- Drying

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	66
Water flow rate, m³/h	4.0
Consumption of steam, kg/h	50
Steam consumption, m³/h	35
Air change rate, consumed by exhaust ventilation, m³/h	2500
Overall dimensions without packing, LxWxH, mm	4990x1665x2396
Net weight, kg	11700
Product-flow time for cases, min	9



## Machine SPG-5

### Function

is intended for cartridge cases machining and control.

### Function operations

- Grooving
- Calibration
- Cutting of mouths
- 100% rim height check
- 100% extraction groove diameter check
- 100% cartridge case length check

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	6.4
Steam consumption, m³/h	2.5
Overall dimensions without packing, LxWxH, mm	3246x910x2200
Net weight, kg	6800



## Machine SPG-6

### Function

is intended for complete automatic control of the cartridge case dimensions and visual quality inspection of cartridge case surface alongside with further conditional rejection of the flow.

### Function operations

- 100% automatic control by calibration chamber
- 100% automatic control of anvil depth
- 100% automatic control of pocket diameter
- 100% automatic control of flash hole presence

### Technical features

Production rate, pcs per min	200+20
Operation factor, not less than	0.85
Power consumption, kW	4.1
Overall dimensions without packing, LxWxH, mm	2750x880x2040
Net weight, kg	3900



## Machine SPG-7

### Function

is intended for visual quality control of cartridge case surface.

### Function operations

- 100% visual quality control

### Technical features

Production rate, pcs per minute	285±15
Power consumption, kW	0.6
Overall dimensions without packing, LxWxH, mm	2670x600x1560
Net weight, kg	700



# EQUIPMENT FOR BULLET MANUFACTURING

## Machine SPP-1

### Function

is intended for manufacture of bullet jackets.

### Function operations

- First drawing
- Second drawing
- First tapering
- Second tapering
- Third tapering
- Fourth tapering
- Jacket cutting
- Jacket expanding

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	38
Water flow rate, m³/h	1.0
Overall dimensions without packing, LxWxH, mm	4360x1100x2397
Net weight, kg	10000



## Machine SPP-2

### Function

is intended for manufacture of lead jacket and preliminary bullet assembly.

### Function operations

- Lead billet cutting
- First forming
- Second forming
- Lead jacket drawing
- Drying
- Insertion of core into jacket
- 100% visual control of core insertion
- Insertion of unit with core into jacket and preliminary folding of jacket ends

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	18.0
Air change rate, consumed by exhaust ventilation, m³/h	2000
Overall dimensions without packing, LxWxH, mm	3955x1310x2030
Net weight, kg	7500



## Machine SPP-3

### Function

is intended for the bullet assembly.

### Function operations

- Final insertion of unit with core into bullet jacket
- First flanging of jacket ends
- Second flanging of jacket ends
- First tapering of bullet jacket boat-tail
- Second tapering of bullet boat-tail
- Bullet figure calibration
- Diametrical calibration of bullet
- Cannelure crimping
- 100% automatic control of bullet main diameter
- 100% automatic control of bullet tail part cone height
- 100% automatic control of bullet length
- 100% automatic control of bullet weight

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	6.4
Overall dimensions without packing, LxWxH, mm	4085x840x2030
Net weight, kg	6920



## Machine SPP-4

### Function

is intended for visual quality control of bullet surface.

### Function operations

- 100% visual control of bullets

### Technical features

Production rate, pcs per minute	(120±10)x2
Power consumption, kW	1.0
Overall dimensions without packing, LxWxH, mm	1445x850x1400
Net weight, kg	350





## Machine SKP-7

### Function

is intended for insertion of primer into cartridge case.

### Function operations

- Primer insertion
- 100% automatic control of primer insertion depth

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	2.0
Steam consumption, m³/h	7.0
Pressure, MPa	0.2
Overall dimensions without packing, LxWxH, mm	1950x880x1965
Net weight, kg	3700

## Machine SGP-7

### Function

is intended for the cartridges sealing.

### Function operations

- Sealing on the mouth
- Sealing of primer
- Drying
- 100% visual inspection

### Technical features

Production rate, pcs per minute	200+10
Operation factor, not less than	0.85
Power consumption, kW	2.0
Overall dimensions without packing, LxWxH, mm	2660x1620x1685
Net weight, kg	2400



# EQUIPMENT FOR CARTRIDGE ASSEMBLY

## Machine SSP-7

### Function

is intended for assembly, geometrical and weight control of cartridges.

### Function operations

- Case mouth expanding
- Powder chamber filling
- Propellant presence control
- Preliminary assembly of bullet and cartridge case
- Tapering of cartridge mouth
- 100% automatic control of cartridge case body length
- 100% automatic control of cartridge length
- 100% automatic control of cartridge weight
- 100% automatic control of cartridge configuration

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	2.0
Overall dimensions without packing, LxWxH, mm	3680x1170x2000
Net weight, kg	5600



## Machine SSU-7

### Function

is intended for the of cartridge packaging.

### Function operations

- Packing of cartridges
- 100% control of package weight with cartridge

### Technical features

Production rate, pcs per minute	200+20
Operation factor, not less than	0.85
Power consumption, kW	1.5
Overall dimensions without packing, LxWxH, mm	2570x1300x1570
Net weight, kg	1700





# CASE MANUFACTURING EQUIPMENT

## Press VPR-1

### Function

A special single-crank open press of simple action is designed for punching disc for the "case" product of calibers 12.7x99 and 12.7x108 mm.

### Functional operations

- Disc blanking

### Technical features

Productivity, pcs./min.	76
Number of strokes per minute	38
Rated force, kN	500
Power consumption, kW	7.68
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	1350x1200x2600
Net weight, kg	4010



## Press VPS-1

### Function

The press is a special single-crank open single-action press designed for the extraction operation of the disc for the product "case" of calibers 12.7x99 and 12.7x108mm.

### Functional operations

- Cupping

### Technical features

Productivity, pcs./min.	40
Rated force, kN	630
Power consumption, kW	6.5
Compressed air consumption, m³/h	2
Overall dimensions without packaging, LxWxH, mm	1410x1650x2500
Net weight, kg	4860



## Press PGS-1

### Function

The press is a special horizontal single-crank closed press designed for the first and second case drawings

### Functional operations

- First drawing
- Second drawing

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	9.0
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	3300x1900x1970
Net weight, kg	6480



## Press PGS-2

### Function

The press is a special horizontal single-crank closed press designed for the third drawing and cutting of the case.

### Functional operations

- Third drawing
- Cutting

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	9.0
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	3200x1900x1970
Net weight, kg	6480



# CASE MANUFACTURING EQUIPMENT

## Machine SO-1

### Function

is intended for the operation of leveling the edge of the workpiece after the final drawing and removal of hardening formed on the edge of the workpiece after disc blanking.

### Functional operations

- Cutting the billet edge

### Technical features

Productivity, pcs./min.	6
Power consumption, kW	3.0
Air network pressure, MPa	0.4...0.45
Compressed air consumption, m³/h	5.0
Overall dimensions without pack., LxWxH, mm	1700x1500x1700
Net weight, kg	1600



## Press PGS-3

### Function

The press is a special single-crank closed press designed for the first stamping of the primer pocket.

### Functional operations

- First stamping of the primer pocket

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	8.5
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	3420x1940x1800
Net weight, kg	6600



## Press PGS-4

### Function

The press is a special single-crank closed press designed for the second stamping of the primer pocket.

### Functional operations

- Second stamping of the primer pocket

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	8.5
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	3420x1940x1800
Net weight, kg	6600



## Machine SIN-3T

### Function

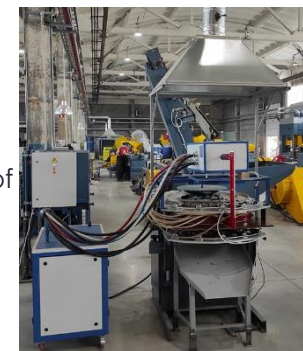
The induction heating machine is designed to perform the operation of annealing the mouth of the case before tapering

### Functional operations

- Case mouth part annealing

### Technical features

Productivity, pcs./min.	40
Power consumption, kW	26
Nominal consumption of cooling water of the external circuit, m³/h	5
Min. water volume of the external water cooling circuit, m³	1.5...3.0
Internal cooling tank capacity, m³	0.06
Compressed air consumption, m³/h	30
Air pressure, MPa	0,45
Overall dimensions without packaging, LxWxH, mm	2600x2600x2800
Net weight, kg	1700



# CASE MANUFACTURING EQUIPMENT

## Press PGS-5

### Function

The press is a special horizontal single-crank closed press designed for mouth tapering

### Functional operations

- Mouth tapering

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	8.5
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	3000x1600x1850
Net weight, kg	4300



## Machine SPF-1

### Function

The machine is designed for the operation of flange part grooving and mouth part trimming of the case.

### Functional operations

- Mouth part trimming
- Flange part grooving

### Technical features

Productivity, pcs./min.	6
Power consumption, kW	3.0
Air pressure, MPa	0.4...0.45
Compressed air consumption, m³/h	15
Overall dimensions without pack., LxWxH, mm	1700x1500x1600
Net weight, kg	1600



## Machine SSO-1

### Function

The drilling machine is designed to perform the operation of drilling the flash holes of the case.

### Functional operations

- Drilling flash holes

### Technical features

Productivity, pcs./min.	15
Power consumption, kW	3.0
Operation factor, not less than	0.85
Air pressure, MPa	0.4...0.45
Compressed air consumption, m³/h	5
Overall dimensions without packaging, LxWxH, mm	1530x840x2070
Net weight, kg	800



## Machine SOG-1

### Function

The cartridge case inspection machine is designed to perform the cartridge case inspection operation.

### Functional operations

- Cartridge case inspection.

### Technical features

Productivity, pcs./min.	40
Operation factor, not less than	0.85
Power consumption, kW	2.0
Overall dimensions without pack., LxWxH, mm	1700x1100x1850
Net weight, kg	355





## Press PMP-40/10-1

### Function

The vertical multi-position press is designed for the manufacture of cartridge shell.

### Functional operations

- Drawing 1
- Drawing 2
- Drawing 3
- Drawing 4
- Tapering 1
- Tapering 2
- Tapering 3
- Tapering 4
- Tapering 5
- Trimming

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	20
Air network pressure, MPa	0.4...0.45
Compressed air consumption, m³/h	12
Overall dimensions without pack., LxWxH, mm	3200x2050x3500
Net weight, kg	15000



# BULLET MANUFACTURING EQUIPMENT

## Press PMP-40/10-2

### Function

The vertical multi-position press is designed for the production of a knot of a lead jacket and a steel core.

### Functional operations

- Cut off billet (lead wire)
- Cup blanking (lead jacket)
- Jacket drawing 1
- Jacket drawing 2
- Pressing a steel core into a lead jacket
- Bending the edge of the shirt shell

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	20
Air network pressure, MPa	0.4...0.45
Compressed air consumption, m³/h	12
Overall dimensions without pack., LxWxH, mm	3200x2050x3500
Net weight, kg	15000



## Automatic lathe TAS-1

### Function

The automatic lathe is designed for the manufacture of a steel core for a bullet to a cartridge

### Functional operations

- Manufacture of steel core

### Technical features

Productivity, pcs./min.	10
Frequency of rotation of the main spindle, rpm	8000
Power consumption, kW	26
Overall dimensions without pack., LxWxH, mm	6030x1160x1630
Net weight, kg	2700



## Machine SOM-1

### Function

The equipment is designed to calibrate the steel core of the bullet to the cartridge

### Functional operations

- Steel core calibration

### Technical features

Productivity, pcs./min.	40
Power consumption, kW	0.6
Air network pressure, bar	6
Overall dimensions without pack., LxWxH, mm	1247x679x1062
Net weight, kg	200





# BULLET MANUFACTURING EQUIPMENT

## Press PMP-40/10-3

### Function

Vertical multi-position press is designed for designed for assembling cartridge bullets

### Functional operations

- Straightening the shell
- Pressing No. 1 into the shell
- Pressing No. 2 knot into the shell
- Tapering No. 1 of the tail part of the bullet
- Trimming No. 2 of the tail part of the bullet
- Tapering No. 3 of the tail part of the bullet
- Tapering No. 4 of the tail part of the bullet
- First calibration of bullet diameter
- Grooves knurling
- Second calibration of bullet diameters

### Technical features

Productivity, pcs./min.	40
Rated force, kN	400
Power consumption, kW	20
Air network pressure, MPa	0.4...0.45
Compressed air consumption, m³/h	12
Overall dimensions without pack., LxWxH, mm	3200x2050x3500
Net weight, kg	15000



## Machine SKPM-1

### Function

The equipment is designed to control the mass of a bullet to a cartridge

### Functional operations

- Sorting bullets by weight - normal, heavy, light

### Technical features

Productivity, pcs./min.	40
Power consumption, kW	0.6
Air network pressure, bar	6
Overall dimensions without pack., LxWxH, mm	1247x679x1062
Net weight, kg	200



## Machine SOP-1

### Function

The bullet inspection machine is designed for visual control of the appearance of finished bullets for the cartridge.

### Functional operations

- Visual bullets inspection

### Technical features

Productivity, pcs./min.	40
Power consumption, kW	1.0
Overall dimensions without pack., LxWxH, mm	1700x1100x1850
Net weight, kg	355



## Machine AP-1

### Function

The machine is designed for wiping a bullet to a cartridge

### Functional operations

- Wiping the bullet with sawdust

### Technical features

Power consumption, kW	3
Overall dimensions without pack., LxWxH, mm	1620x1150x1225
Net weight, kg	1250



# EQUIPMENT FOR CARTRIDGE ASSEMBLING

## Machine SKG-127

### Function

designed for inserting the primer into the case, controlling the depth of the primer insertion and punching the primers of calibers 12.7x99, 12.7x108 mm.

### Functional operations

- Primer insertion
- 100% automatic control of the primer insertion depth
- Primer punching

### Technical features

Productivity, pcs./min.	60
Operation factor, not less than	0.85
Power consumption, kW	1.5
Steam consumption, m³/h	7.0
Pressure, MPa	0.2
Overall dimensions without pack., LxWxH, mm	2600x1000x2400
Net weight, kg	3000



## Machine SGP-127

### Function

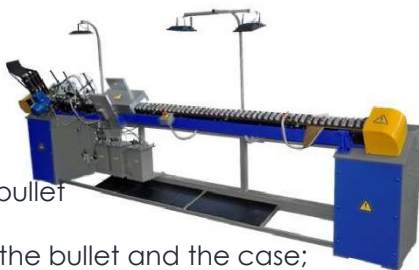
Designed for cartridge sealing (hermetization).

### Functional operations

- coloring the tip of the cartridge bullet
- sealing of the landing site of the primer in the case, the junction of the bullet and the case;
- visual 100% quality control of the bullet coloring, sealing of the place where the primer fits into the case, the junction of the bullet and the case, and the appearance of the cartridge.

### Technical features

Productivity, pcs./min.	40
Power consumption, kW	1.0
Compressed air consumption, m³/h	10
Overall dimensions without pack., LxWxH, mm	4410x900x1800
Net weight, kg	815



## Machine SSP-127

### Function

designed for loading and assembling of cartridges of calibers 12.7x99, 12.7x108 mm.

### Functional operations

- Straightening the mouth
- Filling the charging chamber with gunpowder
- Control of the presence of an explosive substance
- Pre-assembly of a bullet with a case
- Final assembly of the bullet with the case
- Cartridge mouth tapering
- 100% automatic cartridge configuration control
- 100% automatic control of case body length in cartridge
- 100% automatic cartridge length control
- 100% automatic cartridge weight control

### Technical features

Productivity, pcs./min.	41
Operation factor, not less than	0.85
Power consumption, kW	2.8
Overall dimensions without pack., LxWxH, mm	1816x1100x2573
Net weight, kg	700



## Machine VS-2

### Function

The weight control machine is designed to perform an operation to control the weight of the finished cartridge.

### Functional operations

- Cartridge weighing
- Sorting by weight deviation

### Technical features

Productivity, pcs./min.	40
Power consumption, kW	0.6
Compressed air pressure, bar	6
Overall dimensions without packaging, LxWxH, mm	1247x679x1062
Net weight, kg	210

