



SURFACE FINISHING MACHINES AND SYSTEMS

For Metal And Plastic Industry

KROMAŞ[®]
Better surfaces for life...

Kromaş, which adds value to our life and provides brightness, aesthetics and functionality to many things we touch, see and use, with its machinery and technology, was established in 1993 as the pioneer of the surface treatment industry in Turkey.

Kromaş, continues to work in an effort to make life easier and more enjoyable with the technologies and solutions it offers in surface processing.

The company describes the purpose of the technologies and solutions it produces as improving the surface of the parts it uses in our lives and adding value. Without being limited to these, we can summarize the desired results to be obtained in machines and processes as follows:

- Surface Polishing
- Deburring / Grinding
- Edge Rounding
- Surface Cleaning
- Degreasing
- Surface Ageing (Natural Stone)
- Surface finishing before coating

In addition to making the necessary technology and machinery production on its own in order to do these operations, it also carries out the

production and development of consumables over 2000 kinds which are used for these operations in its own laboratories and production facilities.

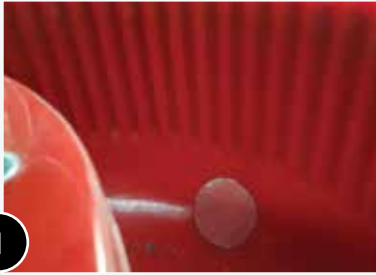
The machinery and consumables produced by Kromaş are successfully used in over 5,000 factories in 5 continents and 87 countries. Many of the more than 3,000 surface treatment processes developed by Kromaş are effectively applied in the world without any alternatives.

Kromaş, which has ISO 9001:2015 quality management system certificate also has CE certifications received from the world's major inspection organizations for all machinery groups. Kromaş, whose main approach is to add value to its customers and make life easier has made this philosophy a corporate culture with the motto of "Better Surfaces for Life" and has been continuing to develop it.

Kromaş Turkey



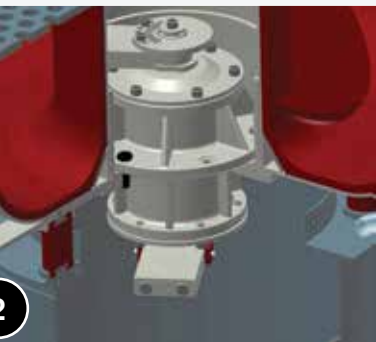




1

POLYURETHANE LINING

The machines are lined with high corrosion free, long lived and high quality polyurethane.



2

VIBRATION MOTOR

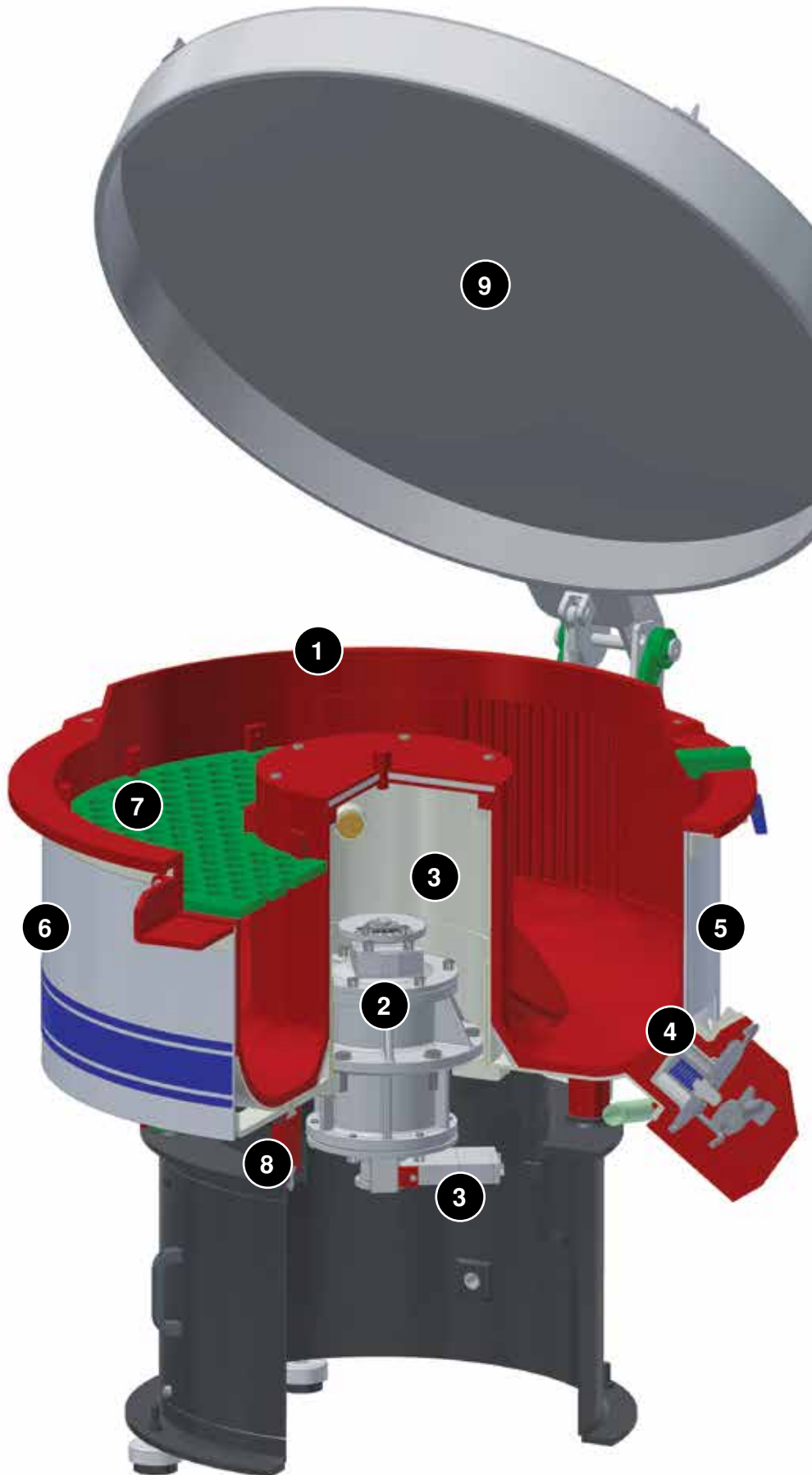
Our own design direct drive steel cased motors have special imported bearings and axtemal lubrication system with high level performance.



3

VIBRATION ADJUSTMENT

Vibration amplitude can be observed from the vibration gauge on the bowl. Required vibration can be obtained by adjusting the weights. If an optional frequency converter is installed vibration and processing speed can also be controlled from the control panel.



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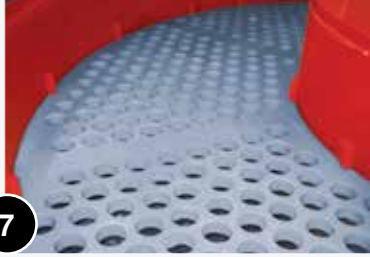
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4

HEAT TREATMENT

All vibrating parts, in particular the metal bowl, are heat treated (normalized) during construction to avoid any stress fractures or metal fatigue due to the vibratory process.



7

SEPARATORS

Media separators are made of long lasting polyurethane. Media separators for broken or undersized media are made of Stainless Steel. Separators can be changed easily and quickly in less than a minute.



10

STANDARD CONTROL PANEL

Designed and manufactured using the best materials and are suitable to CE, EN, IP norm and standards.



5

SHOT BLASTING

All metal surfaces are shot blasted for the added strength prior to lining and painting.



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SUSPENSION

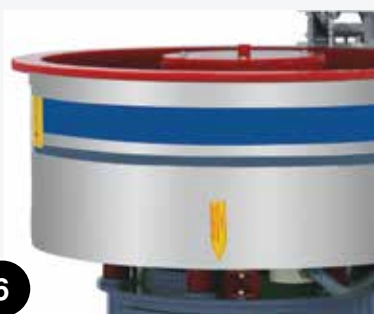
Long life PU and steel springs are used in the vibratory machines. PU springs are used in models VM 125 and VM 250.



11

PLC CONTROL PANEL

It is designed for automation systems and PLC control allows full process control.



6

PAINT

After painting with epoxy primer and epoxy steel filler, the surfaces are then sprayed with two coats of epoxy paint and then oven treated.



9

NOISE ISOLATION

The machines are the quietest vibratory machines on the market and if necessary optional acoustic lid or sound isolation cabin can be supplied.

DIN EN ISO 9001



PRODUCTION STANDARDS

All machines and equipments carry the CE (European Union Safety Standard), VDE-IP Electrical Standard, ISO 9001 Quality Management System, EN 60204-1 Electric Standard, TSE Quality Certificate and GS Certificate marks.

Round Vibratory Surface Finishing Machines



Kromas vibratory finishing machines are all around, flexible and efficient machines. Variety of industries are using Kromas machines successfully on daily basis. Vibratory finishing machines are used for finishing of metal, plastic, ceramic, stone, glass, wood and rubber products. Vibratory finishing process includes: deburring, radiusing, polishing, descaling, deflashing, degreasing, cleaning, smoothing etc.

Small or large, light or heavy, parts are successfully processed in variety of Kromas vibratory machines. Kromas customers benefits from large variety of material handling, automatic solution, drying and waste water treatment systems available to enhance their new or existing processes.



Kromas efficient process solutions are produced in test laboratory centers in Turkey and Germany. Results from test trials allow Kromas to offer to customers, best optimal machine systems, process and media. Selecting the correct machines by customer production requirement, use of high quality materials, high quality workmanship and engineering guarantee a low maintenance cost and long service life.

The models between VRM 125 - VRM 1000 have media separation systems.

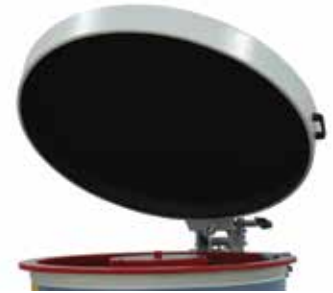


VRM 500 ED-SR

Options - Accessories



Pneumatic Pedal System



Manual & Pneumatic Noise Cover



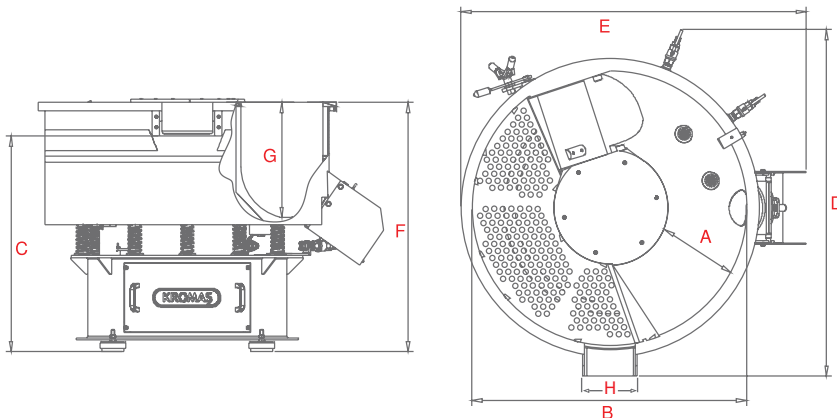
Compound Dosing System



Compound Dosing Pump



Control Panel



ROUND VIBRATORY SURFACE FINISHING MACHINES											
Machine Type		VRM 125*	VRM 225	VRM 350	VRM 500*	VRM 800	VRM 1000	VRM 2000	VM 3200	VM4000	
Capacity	litre	125	225	350	500	800	1000	1700	2400	3600	
Polyurethane Thickness	mm	20	20	20	20	20	20	20-30	25-35	25-35	
Steel Thickness	mm	6	6	6	8	10	10	10	10	10	
Process Area Width	mm	A	210	290	367	370	430	440	670	834	910
Inner Diameter	mm	B	700	970	1130	1300	1560	1650	1975	2325	2590
Discharge Height	mm	C	950	930	982	1019	1165	1170	-	-	-
Width	mm	D	776	1100	1434	1639	1922	2010	2358	2520	2800
Length	mm	E	920	1250	1350	1635	1926	1980	2182	2400	2700
Height	mm	F	1050	1060	1137	1180	1346	1395	1400	1675	1645
Process Area Height	mm	G	331	400	435	520	565	610	683	610	760
Outlet Chute Width	mm	H	160	225	260	260	325	325	-	-	-
Weight	kg		272	490	556	905	1510	1720	2620	2900	3560
Motor Cycle /at 50 Hz)	d/d		1500	1500	1500	1500	1500	1500	1500	1500	1500
Motor Power	kW		0,75	1,1	2,2	4	6	6	15	18.5	30

* VRM 125, VRM 225 and VRM 500 machine version are available for ball burnishing process with stainless steel media.

Through/Tub Vibratory Surface Finishing Machines



From 20 litres to 2200 litres and more, Kromas is manufacturing Trough Vibratory Machines to fit your process application. Parts up to 2200 mm and bigger, can be processed in plastic or ceramic media, or with ball burnishing vibratory process.

Trough vibratory machines are ideal for processing of heavy, long bulky or delicate components which allow unlimited application possibilities.

Drive motors are mounted under the machine, directly to the bottom of the processing tub. Also, larger capacity units are driven by two motors mounted on the side of the tub. Drive motors and imbalance units are connected with unique vibration absorbing couplings.

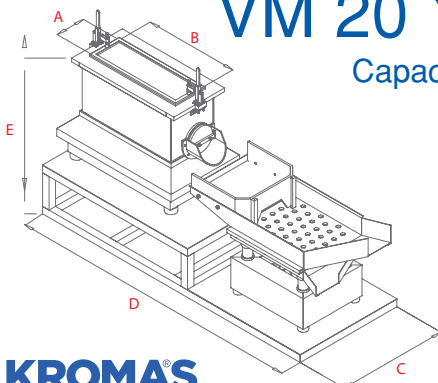
Processing tub can be divided into individual compartment. This is important for processing of delicate parts. Compartment can be filled with different media for step processing as well. Acoustic protection/ Sound covers are available and listed separately.



Kromas Vibratory Tub/ Trough machines are used in variety of industries. From the Automotive and Aerospace parts, to the Natural Stone and Wood industry. Kromas robust design of vibratory tub machines is recognized in "Stone" finishing industry. Tiles and pavers of various materials, size, and thickness are processed in these machines with short cycle time, desired finish and customer satisfaction.

VM 20 Y GR

Capacity: 20 liter

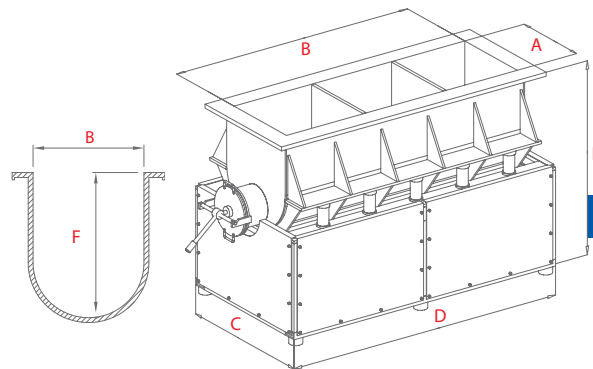




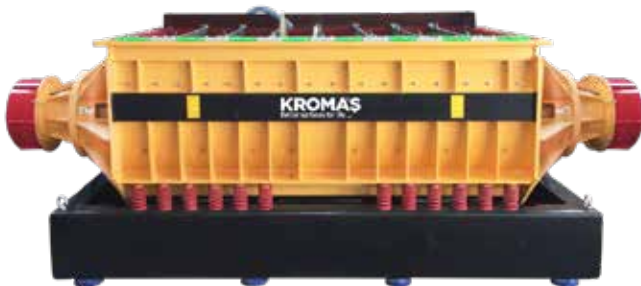
VM 375 Y
Capacity: 375 liter



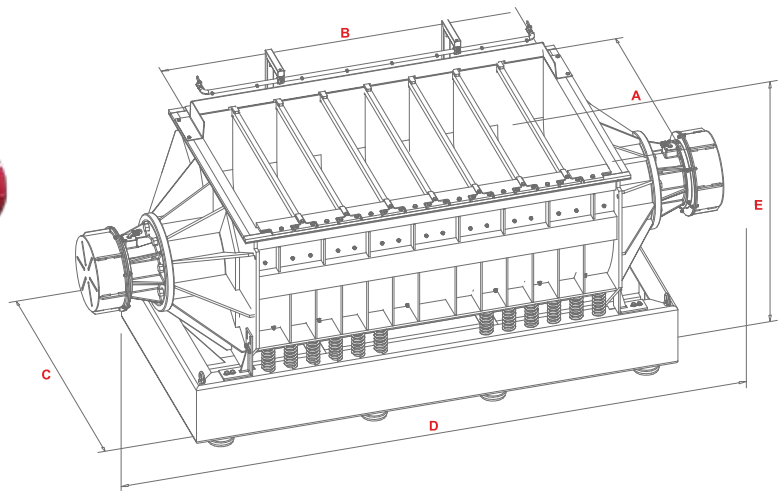
VM 150 Y
Capacity: 150 liter



VM 20 / 150 / 375 Y



VM Y 2200
Capacity: 2.200 liter



THROUGH/TUB VIBRATORY SURFACE FINISHING MACHINES							
Machine Type			VM 20 Y*	VM 20 Y GR*	VM 150 Y*	VM 375 Y*	VM Y 2200*
Capacity	litre		20	20	150	375	2200
Polyurethane Thickness	mm		15	15	15	15	15-35
Process Area Height	mm	F	235	235	480	570	985
Process Area Width	mm	A	170	170	365	500	1100
Process Area Length	mm	B	530	530	870	1500	2200
Width	mm	C	600	600	908	1191	1500
Length	mm	D	710	1600	1149	1799	3900
Height	mm	E	782	965	1095	1125	1510
Weight	kg		125	200	496	1002	5000
Motor Cycle (at 50 Hz)	d/d		1500	1500	1500	1500	1500
Motor Power	kW		1	1,1	1,1 / 1,5	4 / 6	30

* All through vibratory machines have version available for ball burnishing process with stainless steel media.

Linear Vibratory Surface Finishing Machines



Kromas linear vibratory tub machines are allowing unlimited application possibilities. Kromas is manufacturing systems with automatic parts unloading and separation process. Manual and pneumatic noise protection covers are listed as optional machine equipment.



High throughput capacity, high profitability and unlimited automation possibilities are main characteristic of Kromas LNR vibratory continuous finishing system.

It is used in high volume production for finishing, deburring, radiusing in stamping, forging, die-casting processes. Kromas LNR systems provides unmatched reliability in operation.

Kromas LNR system provides unique operation safety with a design suited for occupational health and safety rules and its user friendly ergonomic structure.

LNR 2000

Capacity: 450 liter



LNR 6500

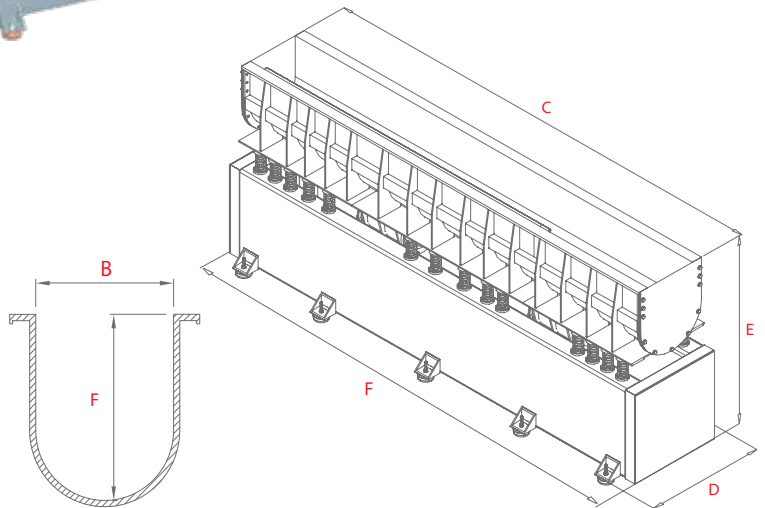
Linear Vibratory Surface Finishing System



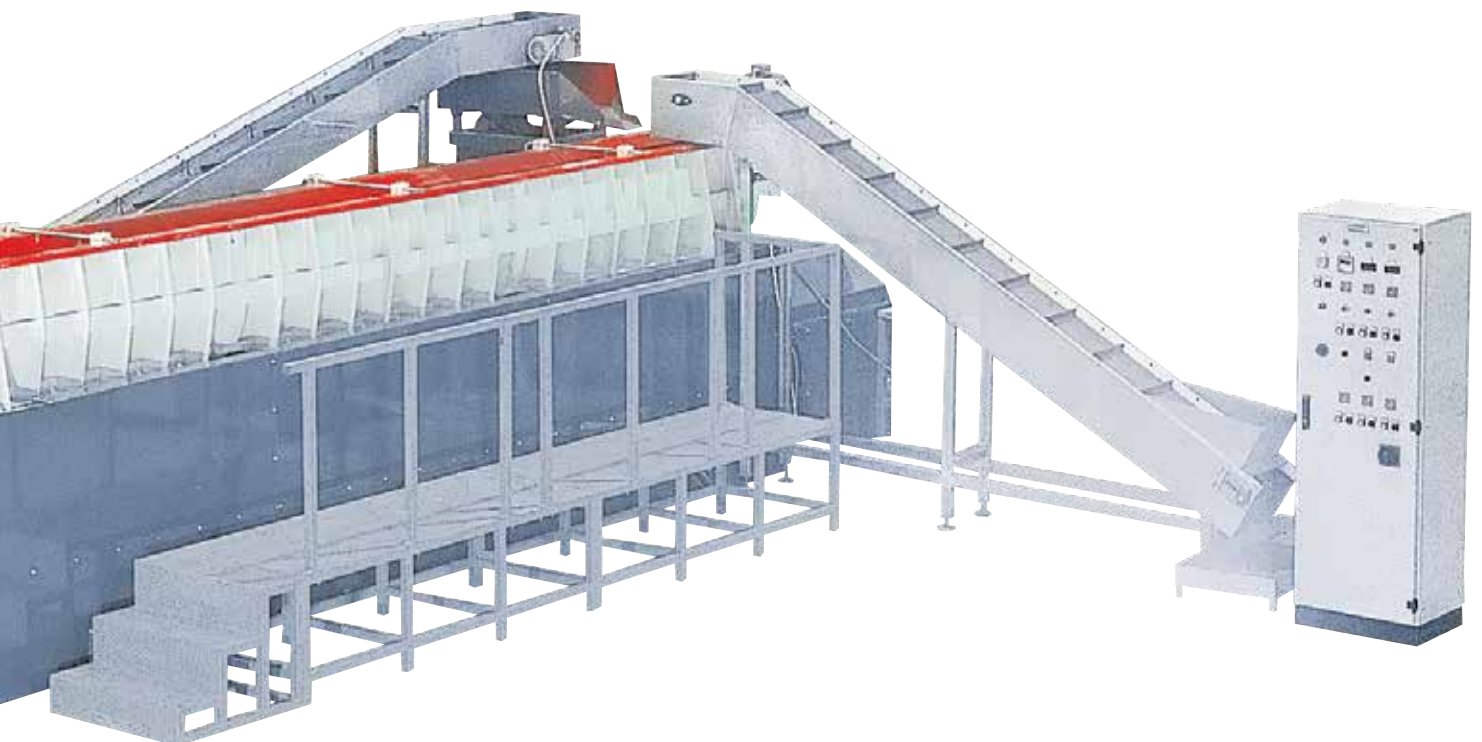


LNR 4000

Capacity: 900 liter



	Capacity	Polyurethane Thickness	Process Area Height	Process Area Width	Process Area Length	Width	Height	Length	Weight	Motor Cycle (At 50 Hz)	Motor Power
	liter	mm	mm	mm	mm	mm	mm	mm	kg		kW
Machine Type			A	B	C	D	E	F			
LNR 2000	450	20	594	448	2000	1074	1200	2445	1730	1500	6
LNR 4000	900	20	594	448	4000	1074	1200	6000	4500	1500	11
LNR 6500	1350	20	594	448	6000	2550	2200	8500	8125	1500	30



Vibratory Drying Finishing Machines



Vibratory Drying Machines are used for drying components/parts, after the vibratory finishing process. Round dryer is filled with drying media (corn maize of various sizes).

Wet parts are loaded continuously into the machine and travel around trough the process channel in pre heated drying media. Parts are separated via separation screen. Dryers with forced hot air are used for one cycle drying of parts.

Drying with granule after polishing process points out the surface polishing level. Our step dryer can dry parts which have different shape and geometry and aren't suitable to dry with granule.

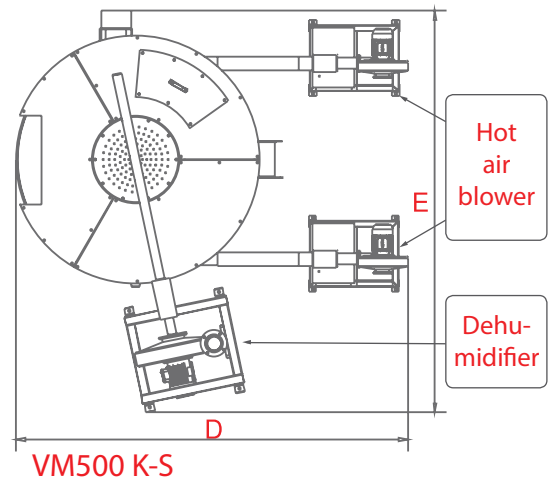
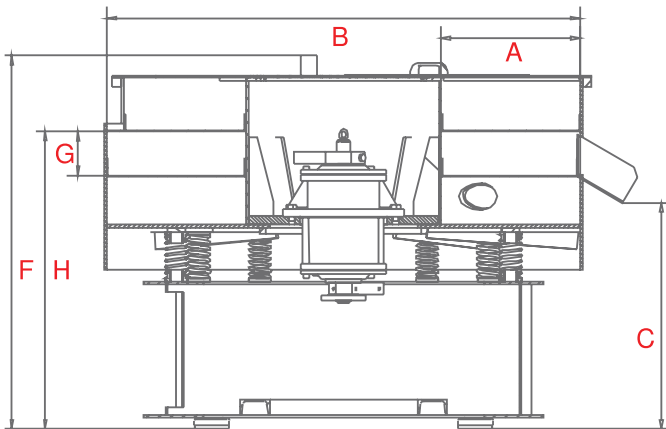
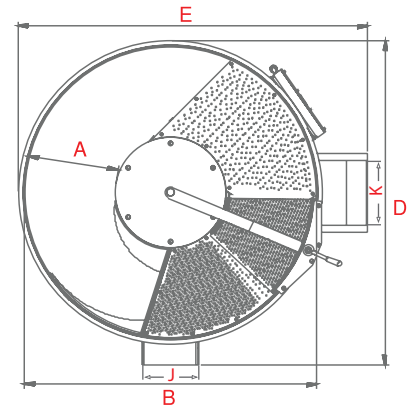
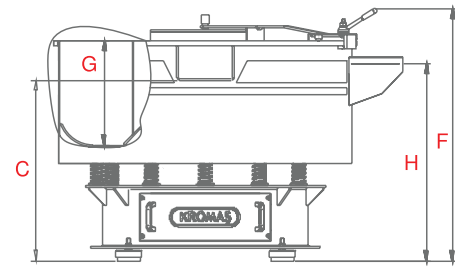
This process is suitable for fragile surfaces that drying with granule is unsuitable.



Vibratory step/layer dryer with hot air blower(FKU)

VRM 500K

Capacity: 500 liter



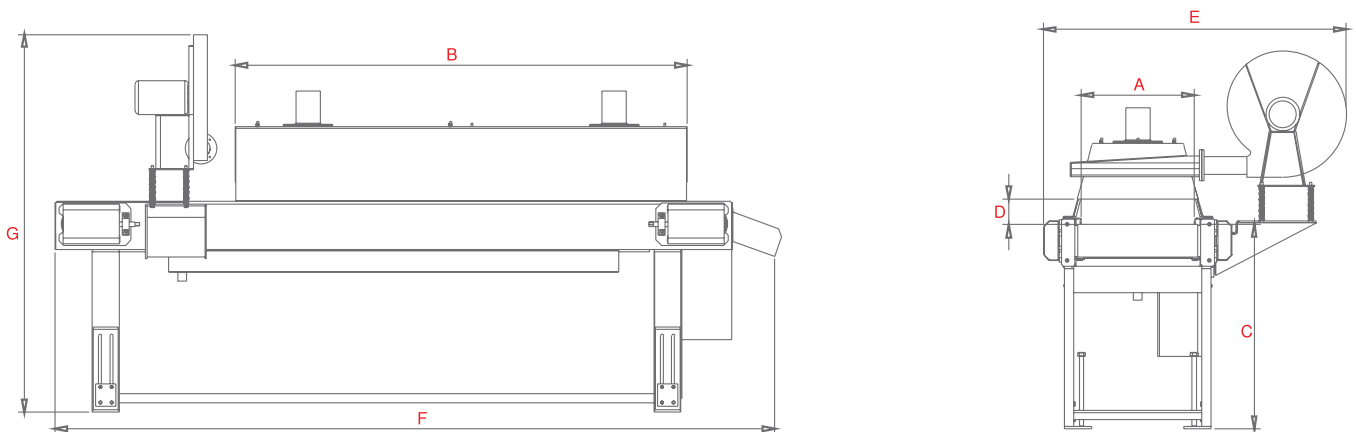
ROUND VIBRATORY DRYER MACHINES									
Machine Type			VRM125 K	VRM225 K	VRM350 K	VRM500 K	VRM800 K	VM250 K-S Gradient Drying	VM500 K-S Gradient Drying
Capacity	litre		125	225	350	500	800	250	500
Polyurethane Thickness	mm		PU SPREY	PU SPREY	PU SPREY	PU SPREY	PU SPREY	PU SPREY	PU SPREY
Steel Thickness	mm		6	6	6	6	10	6	8
Process Area Width	mm	A	242	320	366	405	465	330	470
Inner Diameter	mm	B	700	987	1160	1298	1595	1000	1600
Discharge Height	mm	C	760	820	762	826	1005	330	765
Width	mm	D	890	1175	1332	1485	1768	1170	2650
Length	mm	E	780	1225	1427	1600	1875	1160	2717
Height	mm	F	950	1044	1069	1153	1225	930	1260
Process Area Height	mm	G	330	352	440	477	555	100x4	200x3
Machine Inlet Height	mm	H	885	840	847	903	1080	950	1492
Outlet Chute Width	mm	J	165	220	262	262	375	140	251
Inlet Chute Width	mm	K	-	250	300	300	400	280	600
Weight	kg		280	440	500	810	1900	480	1250
Motor Cycle (at 50 Hz)	d/d		1500	1500	1500	1500	1500	1500	1500
Motor Power	kW		0,75	1,1	2,2	4	6	1,1	4
Heating Power	kW		1,8	3	4	4,5	6	12	20

Belt Drying Machines



EKR 500x3000

Kromas belt dryers are used for drying of large and small parts that are prone to damage. Parts that have many holes of different sizes and heavy parts are ideal for this type of machine. Drying is achieved by temperature controlled hot air which is recirculated in drying chamber. Belt drying machines can optionally be equipped with air sprays to blow off water.



	Conveyor Speed	Process Area Width	Process Area Length	Discharge Height	Process Area Height	Width	Length	Height	Weight	MotorCycle (At 50 Hz)	Total Power
	m/min.	mm	mm	mm	mm	mm	mm	mm	kg	rpm	kW
		A	B	C	D	E	F	G			
TNL 4000	1-2,5	600	2000	830	170	1870	3610	1560	1740	1500	49
EKR 500x3000	1-2,5	500	2000	915	125	1345	3200	1690	520	1500	20

Centrifugal Drying and Degreasing Machines



SK 50 K



SK 50 K
/ Inox

Kromas SK25 and 50 liter capacity centrifugal dryers are used for stain free drying and degreasing of small to medium size parts and preventing parts of being tangled. Timer, heat isolation at top cover, automatic brake system which stops the machine when cover is open, and safety lock stands out our centrifugal drying and degreasing machines.



	Capacity	Inner Diameter	Width	Length	Height	Weight	Centrifge Cycle	Motor Power	Motor Cycle (At 50 Hz)	Heating Power	Total Power
	liter	Ø mm	mm	mm	mm	mm	d/d	kW	d/d	kW	kW
		A	B	C	D	E	F	G			
SK25 Y	33	420	645	750	685	133	600	0,55	1500	-	0,55
SK50 Y	46	470	710	835	835	150	600	0,55	1500	-	0,55
SK25 K	33	420	645	750	765	138	500	0,55	1500	2	2,55
SK50 K	46	470	710	835	835	155	500	0,55	1500	2	2,55

Centrifugal Disc Finishing Machines



Kromas SM Series of centrifugal disc finishing machines are high energy machines. These machines have 10 times higher productivity when compared to round vibratory finishing machines.

SM Machines have universal application, from high gloss polishing to aggressive deburring and radiusing. SM machines are stand alone processing machines. Machines can be equipped with manual tilting or electric tilting motor for easy parts unloading. Low machine configuration allows for easy visual control of a machine finishing process.



Kromas SM machines are fixed pivot centrifugal disc machines.

At the end of the centrifugal disc finishing process, the system pivots by 1400, thus transporting the mass of media and work pieces/parts on to the screening machine. There, separation takes place. When the SM centrifugal disc machine pivots back to processing position it could be refilled with media and parts manually or by automated system.



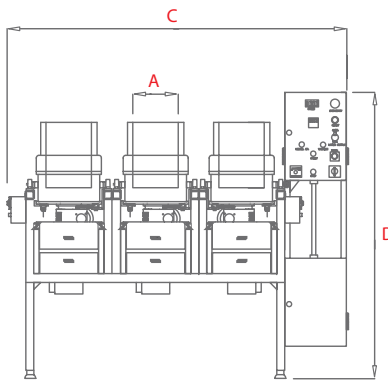
Centrifugal Disc Finishing Machines and Vibratory Separator



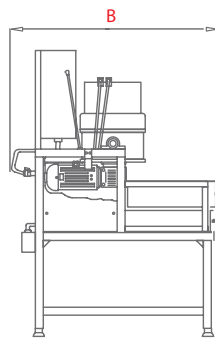
SM 3x14
Capacity: 3x14 liter



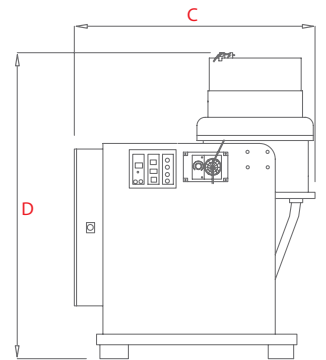
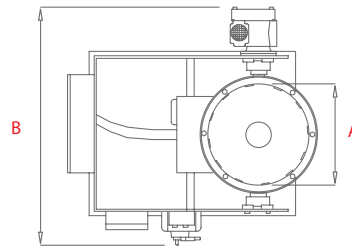
SM 100 R
Capacity: 100 liter



SM 14 / SM 2x14 / SM 3x14



SM 50 / SM 100 / SM 200 / SM 400



CENTRIFUGAL DISC FINISHING MACHINES										
Machine Type		SM 14	SM 2x14	SM 3x14	SM 50 C	SM 50 BR	SM 100 R	SM 200	SM 400	
Capacity	litre	14	2x14	3x14	50	50	100	200	400	
Polyurethane Thickness	mm	20	20	20	20	20	20	20	20	
Steel Thickness	mm	10	10	10	10	10	10	10	10	
Process Area Width	mm	A	2x280	3x280	425	425	585	670	940	
Length	mm	B	1140	1140	1105	1365	1380	1590	2400	
Width	mm	C	1020	1500	950	1180	1380	1720	2020	
Height	mm	D	1600	1600	1530	1315	1510	1650	1910	
Weight	kg		150	300	450	303	385	790	985	1500
Motor Power	kW		1,1	2,2	3,3	3	3,5	4	10	15

Process Water Recycling Systems

Process water recycling systems which are produced by Kromaş and high quality are used for below purposes:

- Recycling of waste water that comes out of mass finishing machines (deburring, poishing etc.) by separating particules from water
- Cleaning of cold water that are used for processing of metal, optical glass, stainless steel, ceramic and other parts
- Recycling of precious metals and alloys

Process Scope:

This process is physical cleaning of waste water that comes from the source. The system works with neutral waters (between ph 6.5 - 9.5).

Processes that are made at the system:

- Flocculation
- Filtrasion
- Defoaming
- Disinfection

ARS 140 B 1000



ARS 25 B 60

APPLICATIONS:

These systems are produced to work with vibratory surface finishing machines, centrifugal surface finishing machines barrel type machines as a standard. As optional, it can be also prepared as a project for the waste water that occurs in different industries.



Machine Type	Unit	ARS25 B0	ARS25 B60	ARS25 MN500	ARS25 MN1000	ARS140 B1000
Capacity	Liter/hour	300	300	300	300	1200
Clean Water Tank Capacity	liter	-	30	270	556	482
Waste Water Tank Capacity	liter	-	30	135	260	338
Total Tank Capacity	liter	-	120	405	816	820
Sludge Container Capacity	kg	2,5	2,5	2,5	2,5	22
Max. Clean Water Outlet Pressure	bar	0,5	0,5	0,5	0,5	0,3
Seperation Factor	g	1800	1800	1800	1800	2010
Centrifuge Speed	rpm	4100	4100	4100	4100	2750
Motor Power	kW	1,5	1,5	1,5	1,5	5
Total Power	kW	1,5	2	1,5	1,5	5,5
Measurements	mm	702x413x780	680x800x800	1560x760x1392	2060x1080x1392	2120x1275x1695
Total Weight	kg	115	160	290	335	620
Control Unit	-	Semi automatic	Semi automatic	Semi automatic	Semi automatic	Semi automatic
Chemical Dosing	-	-	Optional	Standard	Standard	Standard
Disinfections	-	Optional	Optional	Optional	Optional	Optional
Filtration	-	Centrifugal filter	Centrifugal filter	Centrifugal filter	Centrifugal filter	Centrifugal filter
Defoaming	-	Optional	Optional	Optional	Optional	Optional
Ratio of Water Recycling	%	95	95	95	95	95

Surface Finishing Barrels



DM 400
Capacity: 400 liter

Process barrel of Kromaş DM 400 Surface Finishing and Polishing Barrel is lined with elasthomer polyurethane.

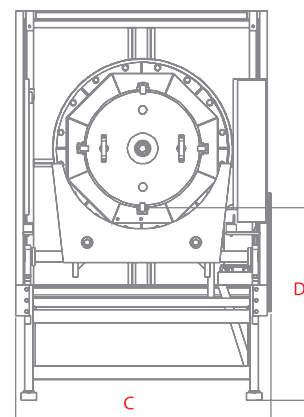
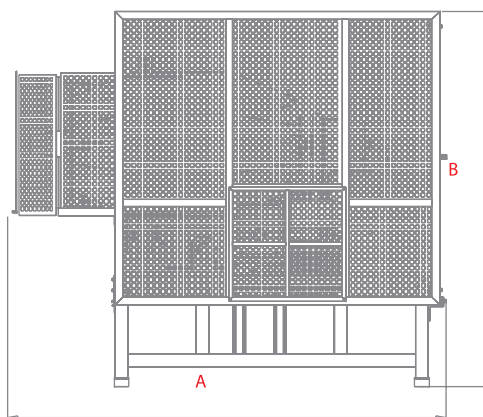
DM 400 is a versatile machine suitable for wet or dry barrel finishing processes.

These barrels are designed for surface finishing of plastic and metal parts.

Internal polyurethane form of DM 400 Surface Finishing and Polishing Barrel is very efficient. It allows the users to have fast and economic production.



Patented, special inner design to increase process efficiency



	Capacity	Length	Height	Width	Process Area Height	PU Thickness	Steel Thickness	Rotation Motor Power	Centrifuge Cycle	Motor Cycle (At 50 Hz)	Water Inlet	Weight
	liter	mm	mm	mm	mm	mm	mm	kW	d/d	d/d	bar	kg
		A	B	C	D							
DM 400	400	2240	1918	1256	950	15	6	4	1-40	1500	2-4	920

MAGNETIC SEPARATORS

Magnetic Drum Separator



Magnetic Belt Separator



HOPPER ELEVATOR LOADING SYSTEMS

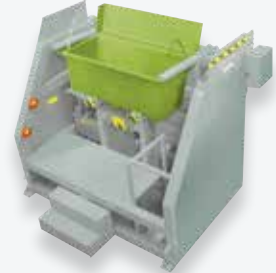
CHN-BUN 150

Chain Driven Hopper Elevator Loading System



HID-BUN 350

Hydraulic Hopper Elevator Loading System



VIBRATORY SEPARATORS

VE 14

Vibratory Separator



VE 50

Vibratory Separator



VE 75

Vibratory Separator



Universal Mobile Hot Air Blower for Conveyors



BELT WASHING MACHINES

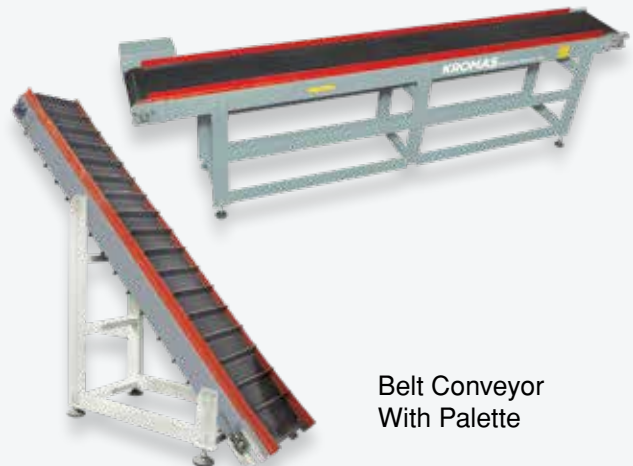
TNY 3000

Belt Washing Machine



FEEDING & LOADING CONVEYORS

PVC Belt Conveyor



Belt Conveyor With Palette

For detailed information, please see the “ Surface Finishing Consumables” bruchure.



CERAMIC MEDIA

Ceramic media is used for rounding sharp edges and corners, surface grinding of hard ferrous materials such as iron, steel and its derivatives. Ceramic media has different classes and each class has different usage purpose.

Media shape and class are determined according to part dimensions, shape, surface finishing quality etc.



PORCELAIN MEDIA

This media has low porosity and high density. It is used for polishing of all metals and non-metallic parts.

Wearing out rate of this media is nearly 0.



PLASTIC MEDIA

Plastic grinding media are used for the surface finishing of softer non ferrous materials such as brass, aluminum, xamac, stainless steel and copper.

Plastic media also has different classes and each class has different usage purpose.

Media shape and class are determined according to part dimensions, shape surface finishing quality etc.





For detailed information, please see the “ Surface Finishing Consumables” bruchure.

DRYING AND POLISHING GRANULES

Corn cob granule: This granule is completely natural and used for drying and polishing processes. It absorbs water fast at high level.

Nut granule: It is used with suitable surface finishing pastes to reach high level polishing results of various metals.



STAINLESS STEEL MEDIA

Stainless steel media with the appropriate compound are used for the burnishing process for most metals.

Stainless steel media has different shapes such as those, balls, pins, satellites etc.

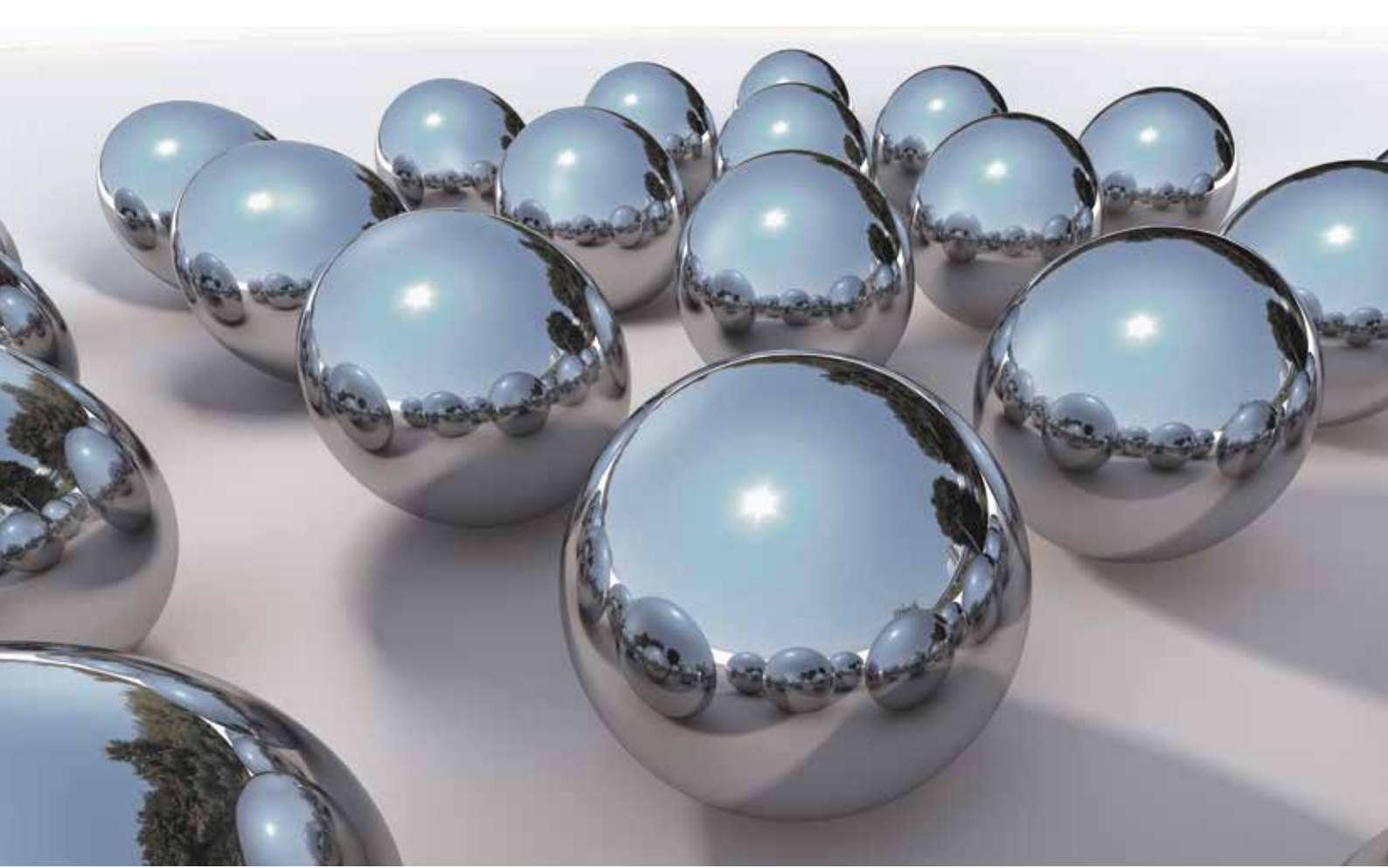
Single shape or mix of different shapes can be used depending on part type.



COMPOUNDS

Compounds are used with ceramic, plastic and porcelain media as liquid, powder and paste. The processes that are made with these compounds are metal cleaning, derusting, deoiling, deburring and polishing. Compound type is determined according to metal type and required surface quality.





KROM-X[®] Process

— The shining star of surface finishing —

Eco friendly surface finishing for mirror finish quality

Kromaş, is one of a few worldwide producers in surface finishing field which carries on many process works in R&D department.

“Surface finishing” solutions are one of the primary problems of industrial production of different sectors.

The Krom-X process which is developed by Kromaş completes other process and cancels electropolishing by taking surface polishing quality to the highest level.

Krom-X[®] process is used for surface finishing of steel, stainless steel, copper, brass, xamak, gold, silver, plastic, semiprecious stones and many other different parts.



After Sales Services



Kromaş continues to support their customers with after sales services. Our experienced and competent team gives the below after sales services as fast as possible.

Installation and Training:

Machine installations and operator training are provided by our professional technical team at our customers plants.

Spare Parts:

We provide all of the Kromaş machines spare parts to our customers. Parts are either delivered and installed by our own after sales services personnel or shipped to our customer's location fast in order to minimize downtime.

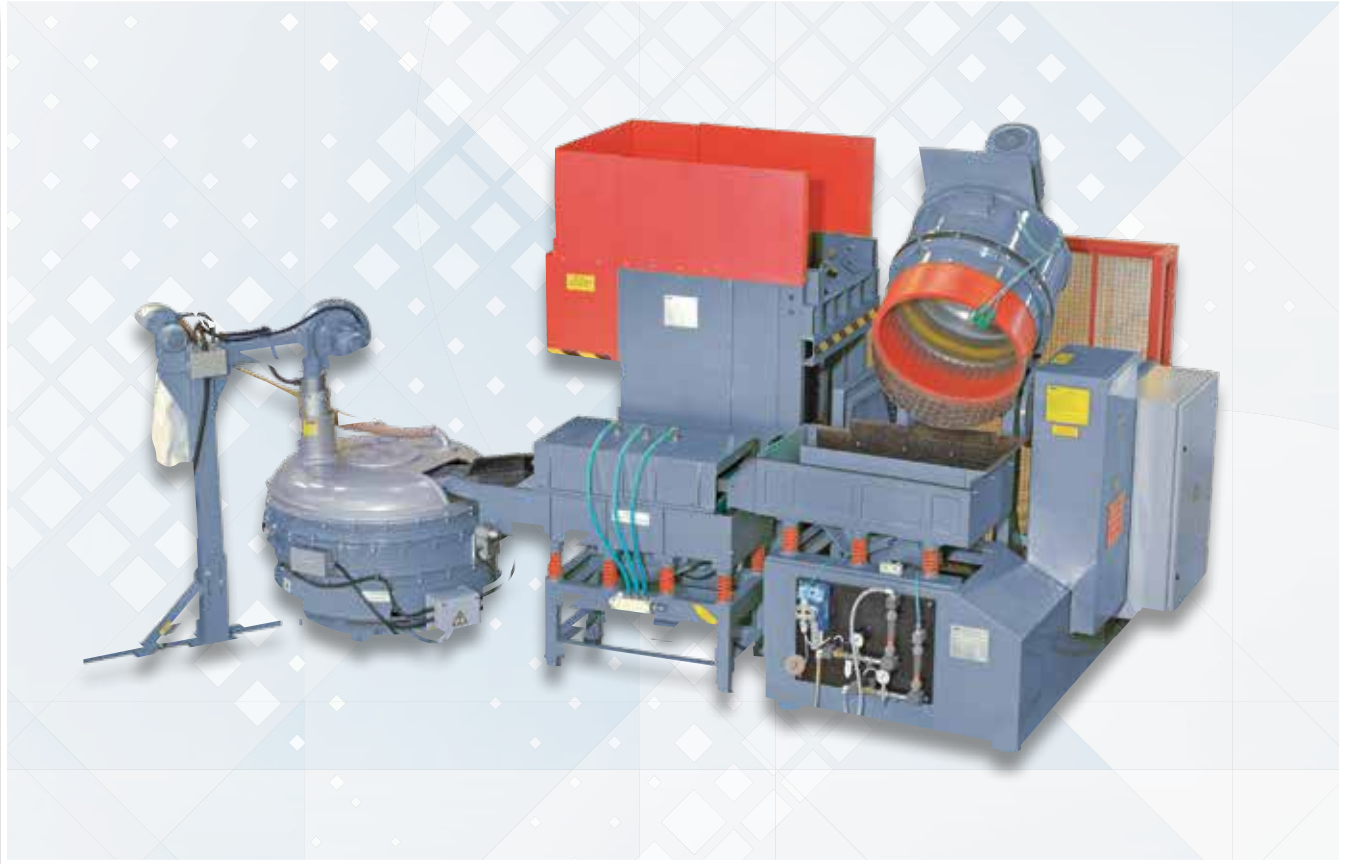
Maintenance and Repair Service:

We support our customers with an experienced field service personnel at customers own location as well as our factory.

Vibratory Surface Finishing Systems



Centrifuge Surface Finishing Systems



KROMAŞ[®]
Better surfaces for life...

Kromaş Metal ve Makine Sanayi Limited Şirketi

Office: Rami Kışla Cad. Cicoz Yolu Hekimoğlu İş Merkezi

No:67/4-5-6-7 Topçular, Bayrampaşa - İstanbul

Tel: +90 212 613 73 50 **Fax:** +90 212 567 07 88

Factory: Trablusgarp Cad. Ali Paşa Mahallesi

Ali Paşa Yolu No: 12 Silivri - İstanbul

Tel: +90 212 736 00 71 **Fax:** +90 212 736 00 75

info@kromas.com | www.kromas.com

