



MAZAK / 2009

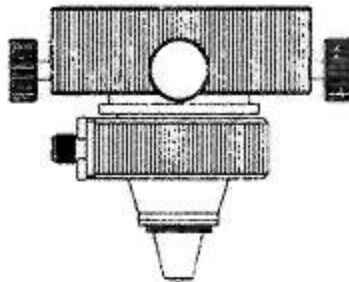
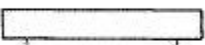
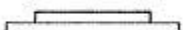
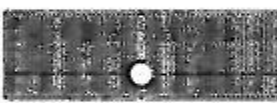
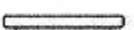
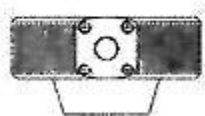
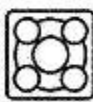
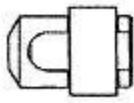
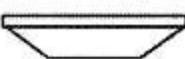
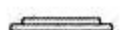


"Оборудование Интернейшенел"

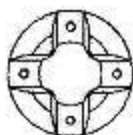
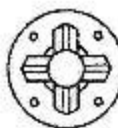
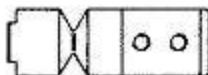
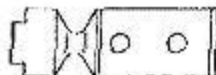
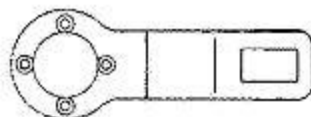
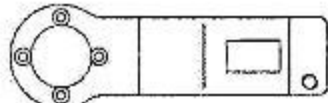
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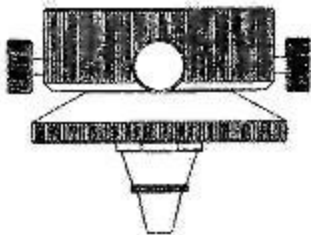
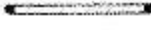
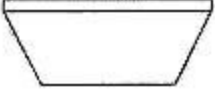
www.obint.ru
info@obint.ru

Ref.-No.	Order-No.	Description	
M.P.S - Consumables suitable for Mazak Super Charge XT510 HI-PRO NTX48			
	HG 10.330		Complete nozzle holder.....
46683301980	HG 10.391		Connecting cable for sensor head.....
46683301400	HG 10.392		Cable adapter.....
46683301230	HG 10.331		Plate.....
46683301110	HG 10.332		Bracket.....
46683301080	HG 10.333		Teflon spacer 27 x 5,5.....
46603350001	HG 10.334		O-Ring Ø 31 x 2.....
46683301070	HG 10.335		Base.....
46683301090	HG 10.336		Teflon spacer 30 x 4.....
46603300032	HG 10.337		Screw M5 x 0,5.....
46683300930	HG 10.338		Ring.....
46683301100	HG 10.339		Bracket.....
46683301120	HG 10.340		Teflon spacer 24 x 3.....
46683300850	HG 10.341		Nozzle holder.....
46683301130	HG 10.342		Teflon spacer 24 x 4.....
46683301140	HG 10.345		Housing.....
46683301170	HG 10.344		Connector.....
46683300000	HG 10.343		Screw M2,5 x 4.....
46683301850	HG 10.348		Teflon fastener.....
46683301860	HG 10.349		Cable holder.....
46683301870	HG 10.350		Cover.....
46683301150	HG 10.346		Teflon spacer 17 x 1,5.....
46683301930	HG 10.390		Teflon spacer.....
46683301160	HG 10.347		Ring.....

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Ref.- No.	Order-No.	Description		
Consumables suitable for Mazak Laser Turbo 10 kW Super Turbo 15 kW and Super Turbo HI-PRO 20 kW				
46512300520	HG 10.312			Stylus-"foot", brass 4 mm.....
46572301045	HG 10.322			Stylus-"foot", teflon 9 mm.....
46602350080	HG 10.356			Stylus-"foot", brass 9 mm.....
46572301041 46572301041	HG 10.327 HG 10.379			Stylus-"foot", brass 12 mm..... Stylus-"foot", teflon 12 mm.....
36682300280	HG 10.315			Break-away-bar, 60 mm.....
36572300101	HG 10.357			Break-away-bar, 61 mm.....
36602300560	HG 10.328			Stylus-"arm".....
	HG 10.374			Stylus-"arm" M4.....
36602350020	HG 10.464			Stylus -"arm".....

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Ref.- No.	Order-No.	Description	
		Consumable suitable for Mazak Laser Turbo 10 kW Super Turbo 15 kW and Super Turbo HI-PRO 20 kW	
	HG 10.353		Complete nozzle holder.....
46603300032	HG 10.337		Screw M5 x 0,5.....
46603350002	HG 10.338		Ring.....
46603350001	HG 10.334		O-Ring Ø 31 x 2.....
46523300080	HG 10.355		Base.....
	HG 10.462		O-Ring Ø 22 x 1,5.....
46603350510	HG 10.304		Nozzle-adapter.....
46683300030	HG 10.311		Retainer.....
		Consumables suitable for Mazak Super Turbo X510 HI_PRO	
46683301840	HG 10.351		Teflon cover for Trumpf® nozzles.....
46683301830	HG 10.352		Adapter for Trumpf® nozzles.....
			Trumpf® nozzles refer to page 3 From HG 10.148 to HG 10.159
			Page C

Ref.- No.	Order-No.	Description	
Consumables suitable for Mazak Laser Turbo 10 kW Super Turbo 15 kW and Super Turbo HI-PRO 20 kW			
Standard copper nozzles			
46683301950-8	HG 10.650		Nozzle Ø 0,8 mm.....
46683301950-10	HG 10.651		Nozzle Ø 1,0 mm.....
46683301950-12	HG 10.652		Nozzle Ø 1,2 mm.....
46683301950	HG 10.653		Nozzle Ø 1,5 mm.....
46683301821	HG 10.654		Nozzle Ø 2,0 mm.....
46683301821-22	HG 10.655		Nozzle Ø 2,2 mm.....
46683301960	HG 10.656		Nozzle Ø 2,5 mm.....
46683301970	HG 10.657		Nozzle Ø 3,0 mm.....
	HG 10.658		Nozzle Ø 3,5 mm.....
	HG 10.659	Nozzle Ø 4,0 mm.....	
Chromium plated nozzles			
46683301950-8	HG 10.650/C		Nozzle Ø 0,8 mm chromium plated
46683301950-10	HG 10.651/C		Nozzle Ø 1,0 mm chromium plated
46683301950-12	HG 10.652/C		Nozzle Ø 1,2 mm chromium plated
46683301950	HG 10.653/C		Nozzle Ø 1,5 mm chromium plated
46683301821	HG 10.654/C		Nozzle Ø 2,0 mm chromium plated
46683301821-22	HG 10.655/C		Nozzle Ø 2,2 mm chromium plated
46683301960	HG 10.656/C		Nozzle Ø 2,5 mm chromium plated
46683301970	HG 10.657/C		Nozzle Ø 3,0 mm chromium plated
	HG 10.658/C		Nozzle Ø 3,5 mm chromium plated
	HG 10.659/C	Nozzle Ø 4,0 mm chromium plated	
Standard copper nozzles			
	HG 10.660		Double-Nozzle Ø 1,0 mm.....
	HG 10.661		Double-Nozzle Ø 1,2 mm.....
	HG 10.662		Double-Nozzle Ø 1,5 mm.....
	HG 10.663		Double-Nozzle Ø 2,0 mm.....
	HG 10.664		Double-Nozzle Ø 2,2 mm.....
	HG 10.665		Double-Nozzle Ø 2,5 mm.....
	HG 10.666		Double-Nozzle Ø 3,0 mm.....
Chromium plated nozzles			
	HG 10.660/C		Double-Nozzle Ø 1,0 mm chromium plated ...
	HG 10.661/C		Double-Nozzle Ø 1,2 mm chromium plated ...
	HG 10.662/C		Double-Nozzle Ø 1,5 mm chromium plated ...
	HG 10.663/C		Double-Nozzle Ø 2,0 mm chromium plated ...
	HG 10.664/C		Double-Nozzle Ø 2,2 mm chromium plated ...
	HG 10.665/C		Double-Nozzle Ø 2,5 mm chromium plated ...
	HG 10.666/C		Double-Nozzle Ø 3,0 mm chromium plated ...

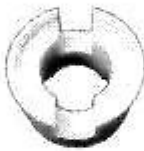
Page D

Ref.- No.	Order-No.	Description	
Consumable suitable for Mazak Turbo 10 kW Super Turbo 15 kW Super Turbo HI-PRO 20 kW and Super Turbo X510 HI-PRO			
Standard copper nozzles			
46603350508	HG 10.323	Adapter nozzle Ø 0,8 mm.....	
46603350511	HG 10.307	Adapter nozzle Ø 1,0 mm.....	
46603350512	HG 10.309	Adapter nozzle Ø 1,2 mm.....	
46603350515	HG 10.310	Adapter nozzle Ø 1,5 mm.....	
46603350517	HG 10.324	Adapter nozzle Ø 1,7 mm.....	
46603350520	HG 10.318	Adapter nozzle Ø 2,0 mm.....	
46603350525	HG 10.308	Adapter nozzle Ø 2,5 mm.....	
46603350530	HG 10.325	Adapter nozzle Ø 3,0 mm.....	
46603350535	HG 10.303	Adapter nozzle Ø 3,5 mm.....	
46603350540	HG 10.326	Adapter nozzle Ø 4,0 mm.....	
46603350508	HG 10.475	Adapter-6-edgenozzle Ø 0,8 mm.....	
46603350511	HG 10.476	Adapter-6-edgenozzle Ø 1,0 mm.....	
46603350512	HG 10.477	Adapter-6-edgenozzle Ø 1,2 mm.....	
46603350515	HG 10.478	Adapter-6-edgenozzle Ø 1,5 mm.....	
46603350517	HG 10.479	Adapter-6-edgenozzle Ø 1,7 mm.....	
46603350520	HG 10.480	Adapter-6-edgenozzle Ø 2,0 mm.....	
46603350525	HG 10.481	Adapter-6-edgenozzle Ø 2,5 mm.....	
46603350530	HG 10.482	Adapter-6-edgenozzle Ø 3,0 mm.....	
Nozzles with hard chromium plating			
46603350508	HG 10.323/C	Adapter nozzle Ø 0,8 mm Hard chromium plating.....	
46603350511	HG 10.307/C	Adapter nozzle Ø 1,0 mm Hard chromium plating.....	
46603350512	HG 10.309/C	Adapter nozzle Ø 1,2 mm Hard chromium plating.....	
46603350515	HG 10.310/C	Adapter nozzle Ø 1,5 mm Hard chromium plating.....	
46603350517	HG 10.324/C	Adapter nozzle Ø 1,7 mm Hard chromium plating.....	
46603350520	HG 10.318/C	Adapter nozzle Ø 2,0 mm Hard chromium plating.....	
46603350525	HG 10.308/C	Adapter nozzle Ø 2,5 mm Hard chromium plating.....	
46603350530	HG 10.325/C	Adapter nozzle Ø 3,0 mm Hard chromium plating.....	
46603350535	HG 10.303/C	Adapter nozzle Ø 3,5 mm Hard chromium plating.....	
46603350540	HG 10.326/C	Adapter nozzle Ø 4,0 mm Hard chromium plating.....	
46603350508	HG 10.475/C	Adapter-6-edgenozzle Ø 0,8 mm Hard chromium pl.	
46603350511	HG 10.476/C	Adapter-6-edgenozzle Ø 1,0 mm Hard chromium pl.	
46603350512	HG 10.477/C	Adapter-6-edgenozzle Ø 1,2 mm Hard chromium pl.	
46603350515	HG 10.478/C	Adapter-6-edgenozzle Ø 1,5 mm Hard chromium pl.	
46603350517	HG 10.479/C	Adapter-6-edgenozzle Ø 1,7 mm Hard chromium pl.	
46603350520	HG 10.480/C	Adapter-6-edgenozzle Ø 2,0 mm Hard chromium pl.	
46603350525	HG 10.481/C	Adapter-6-edgenozzle Ø 2,5 mm Hard chromium pl.	
46603350530	HG 10.482/C	Adapter-6-edgenozzle Ø 3,0 mm Hard chromium pl.	

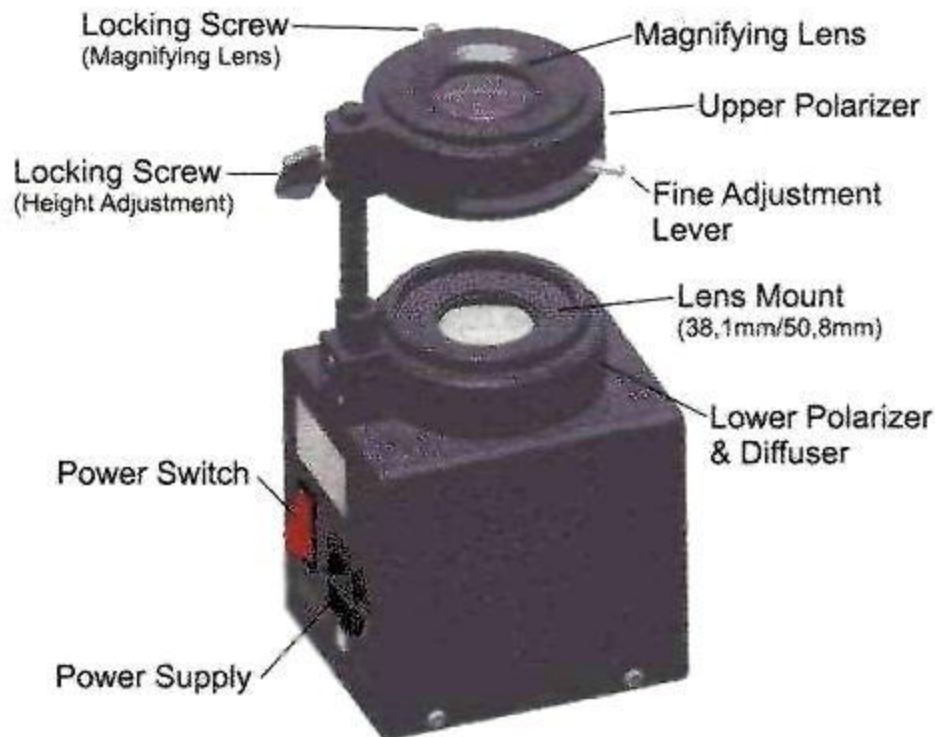
Page E

Ref.-No.	Order-No.	Description
Consumables suitable for Mazak and Precitec 5" C/MG 5" H/MG		
4671330032	HG 10.461	Ring for SPACE GEAR Vespel®.....
Nozzles are packed in strips of 10 tear-off bags		
281006 281030 281031 280898	HG 10.241 HG 10.242 HG 10.243 HG 10.240 HG 10.239	 Nozzle Ø 1,0 mm kk (P0352-333-00010)..... Nozzle Ø 1,2 mm kk (P0352-334-00012)..... Nozzle Ø 1,5 mm kk (P0352-335-00015)..... Nozzle Ø 1,8 mm kk (P0352-336-00018)..... Nozzle Ø 2,0 mm kk
281005 281034 281013 280899 350044-3	HG 10.245 HG 10.246 HG 10.247 HG 10.244 HG 10.248	 Nozzle Ø 1,0 mm zk (P0352-323-00010)..... Nozzle Ø 1,2 mm zk (P0352-324-00012)..... Nozzle Ø 1,5 mm zk (P0352-325-00015)..... Nozzle Ø 1,8 mm zk (P0352-326-00018)..... Nozzle Ø 2,0 mm zk (P0352-327-00020).....
	HG 10.286 HG 10.287 HG 10.288 HG 10.289 HG 10.290 HG 10.486 HG 10.487	 Nozzle Ø 1,0 mm 3D (P0352-383-00010)..... Nozzle Ø 1,2 mm 3D (P0352-384-00012)..... Nozzle Ø 1,5 mm 3D (P0352-381-00015)..... Nozzle Ø 1,8 mm 3D..... Nozzle Ø 2,0 mm 3D (P0352-382-00020)..... Nozzle Ø 2,5 mm 3D (P0352-385-00025)..... Nozzle Ø 3,0 mm 3D.....
	HG 10.291 HG 10.292 HG 10.293 HG 10.294 HG 10.295 HG 10.296 HG 10.297	 Nozzle Ø 1,0 mm 2D..... Nozzle Ø 1,2 mm 2D..... Nozzle Ø 1,5 mm 2D (P0352-386-00015)..... Nozzle Ø 1,8 mm 2D..... Nozzle Ø 2,0 mm 2D (P0352-387-00020)..... Nozzle Ø 2,5 mm 2D..... Nozzle Ø 3,0 mm 2D.....
Consumables suitable for Mazak HyperGear NZX510		
Nozzles with hard chromium plating		
46143304440 46143304450 46143304460 46143304480 46143304490 46143304500 46143304510	HG 10.685 HG 10.670 HG 10.671 HG 10.672 HG 10.673 HG 10.674 HG 10.675 HG 10.676	 Nozzle Ø 1,0 mm Hard chromium plating..... Nozzle Ø 1,2 mm Hard chromium plating..... Nozzle Ø 1,5 mm Hard chromium plating..... Nozzle Ø 2,0 mm Hard chromium plating..... Nozzle Ø 2,5 mm Hard chromium plating..... Nozzle Ø 3,0 mm Hard chromium plating..... Nozzle Ø 3,5 mm Hard chromium plating..... Nozzle Ø 4,0 mm Hard chromium plating.....
	HG 10.677 HG 10.678 HG 10.679 HG 10.680 HG 10.681 HG 10.682 HG 10.683	 Double nozzle Ø 1,2 mm Hard chromium plating.... Double nozzle Ø 1,5 mm Hard chromium plating.... Double nozzle Ø 2,0 mm Hard chromium plating.... Double nozzle Ø 2,5 mm Hard chromium plating.... Double nozzle Ø 3,0 mm Hard chromium plating.... Double nozzle Ø 3,5 mm Hard chromium plating.... Double nozzle Ø 4,0 mm Hard chromium plating....
Page F		

Ref.-No.	Order-No.	Description
		M.P.S CO²-Laser-Lenses suitable for Mazak
	HG 10.167/H	ZnSe-Meniscus Lens 5,00" High Pressure Lens (25 bar), Ø 38,1 mm Effective Focal Length: 127,0 mm, ET: 7,4 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 10.620/H	ZnSe-Meniscus Lens 5,00" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 127,0 mm, ET: 9,7 mm AR/AR for 10,6µm (Absorption <0.24%)
	HG 15.015/H	ZnSe-Plano-Convex Lens 5,00" High Pressure Lens (24 bar), Ø 38,1 mm Effective Focal Length: 127,0 mm, ET: 7,6 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 15.024/H	ZnSe-Plano-Convex Lens 5,00" High Pressure Lens (26 bar), Ø 38,1 mm Effective Focal Length: 127,0 mm, ET: 7,87 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 15.029/H	ZnSe-Plano-Convex Lens 5,00" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 127,0 mm, ET: 7,87 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 15.002/H	ZnSe-Plano-Convex Lens 5,00" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 127,0 mm, ET: 9,7 mm AR/AR for 10,6µm (Absorption <0.24%)
	HG 10.168/H	ZnSe-Meniscus Lens 7,50" High Pressure Lens (25 bar), Ø 38,1 mm Effective Focal Length: 190,5 mm, ET: 7,4 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 15.016/H	ZnSe-Plano-Convex Lens 7,50" High Pressure Lens (24 bar), Ø 38,1 mm Effective Focal Length: 190,5 mm, ET: 7,6 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 10.621/H	ZnSe-Meniscus Lens 7,50" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 190,5 mm, ET: 9,7 mm AR/AR for 10,6µm (Absorption <0.24%)
	HG 15.028/H	ZnSe-Plano-Convex Lens 7,50" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 190,5 mm, ET: 7,87 mm AR/AR for 10,6µm (Absorption <0.20%)
	HG 15.003/H	ZnSe-Plano-Convex Lens 7,50" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 190,5 mm, ET: 9,7 mm AR/AR for 10,6µm (Absorption <0.24%)
	HG 10.622/H	ZnSe-Meniscus Lens 10,00" High Pressure Lens (24 bar), Ø 50,8 mm Effective Focal Length: 254,0 mm, ET: 9,7 mm AR/AR for 10,6µm (Absorption <0.24%)
		For a laserpower above 4kW, we do recommend lenses with the special Ultra Low coating for the following reasons. These lenses do offer a lower absorption (<0.15%). The results of the lower heat absorption are less tensions and optical distortions. Furthermore the focal length is more stable. Also in case of a slightly dirty lens you can still profit from these advantages. These lenses are not black. Therefore it is not possible to differentiate them from the standard ZnSe-Meniscus lenses. Ultra Low lenses are appropriately marked on the edge.
	HG 10.167/HU	ZnSe-Meniscus Lens 5,00" High Pressure Lens (25 bar), Ø 38,1 mm Effective Focal Length: 127,0 mm, ET: 7,4 mm Ultra Low AR/AR for 10,6µm (Absorption <0.15%)
	HG 10.168/HU	ZnSe-Meniscus Lens 7,50" High Pressure Lens (25 bar), Ø 38,1 mm Effective Focal Length: 190,5 mm, ET: 7,4 mm Ultra Low AR/AR for 10,6µm (Absorption <0.15%)
		➔ Further M.P.S - Lenses with Ultra-Low coating are available upon request !!

Ref.-No.	Order-No.	Description	
		M.P.S Accessoires for cleaning CO² - Laser - Lenses	
	HG 10.174	M.P.S - Polish Polish for laseroptics, 100ml	
	HG 10.173	Lens cleaning paper from Tiffen® From the producer of Kodak® paper (<i>no longer available!!</i>) Sheet size: ca. 70 x 115 mm, Package containing: 50 sheets	
	HG 15.136	Latex gloves (package containing: 100 pcs)	
	HG 15.138	EM-080 general-purpose cleaning concentrate Bottle of 500 ml	
	HG 15.099	Cleaning holder (Teflon) for lenses <i>(to use on both sides)</i>  with Ø 38.10mm  with Ø 50.80mm	
			Page H

Dirt & Strain Viewer for Lenses and Cleaning Set



Picture 1



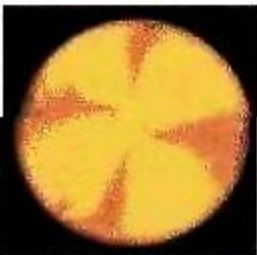
It is easily visible, that this lens is dirty.

Picture 2



Here are two small pieces of backscatter in the very center of the lens.

Picture 3



Lens was overheated (stress). This cannot be seen with the naked eye. This problem is mainly occurring with lasers with a power of 4, 5, 6 or 7kW.

Here we do recommend our **M.P.S Ultra Low®** - lenses with very low absorption values.

Picture 4



The bright spots at the edge of the lens show, that the lens was mounted too tight in the holder. The reason is, that the holder is dirty or was screwed too tight. Because the lens consists of soft material, it is strained, so that you have problems finding the focussing point and it is stressed very easily. You can see the stress in the middle of the lens (shadow - cross). All this is not visible with the naked eye. Because you could not see the cause without the dirt & strain viewer, every new lens would have been also damaged when built in.

C'est aussi

