



<b>VORTEX FACTORY</b> OTK KART GROUP s.r.l. Via E. Fermi, 5 I - 27040 PAVIA	<b>HOMOLOGATION FORM for VLR ENGINE cl. 100 cc.</b>	
<b>Manufacturer</b>	<b>VORTEX FACTORY</b>	
<b>Make</b>	<b>VORTEX FACTORY</b>	
<b>Model</b>	<b>ROK VLR</b>	
<b>Inlet type</b>	<b>REED VALVE</b>	
<b>Number of pages</b>	<b>16</b>	
<b>PICTURES OF ENGINE</b>		
		
		
<b>FRONT / LEFT SIDE</b>	<b>BACK / RIGHT SIDE</b>	



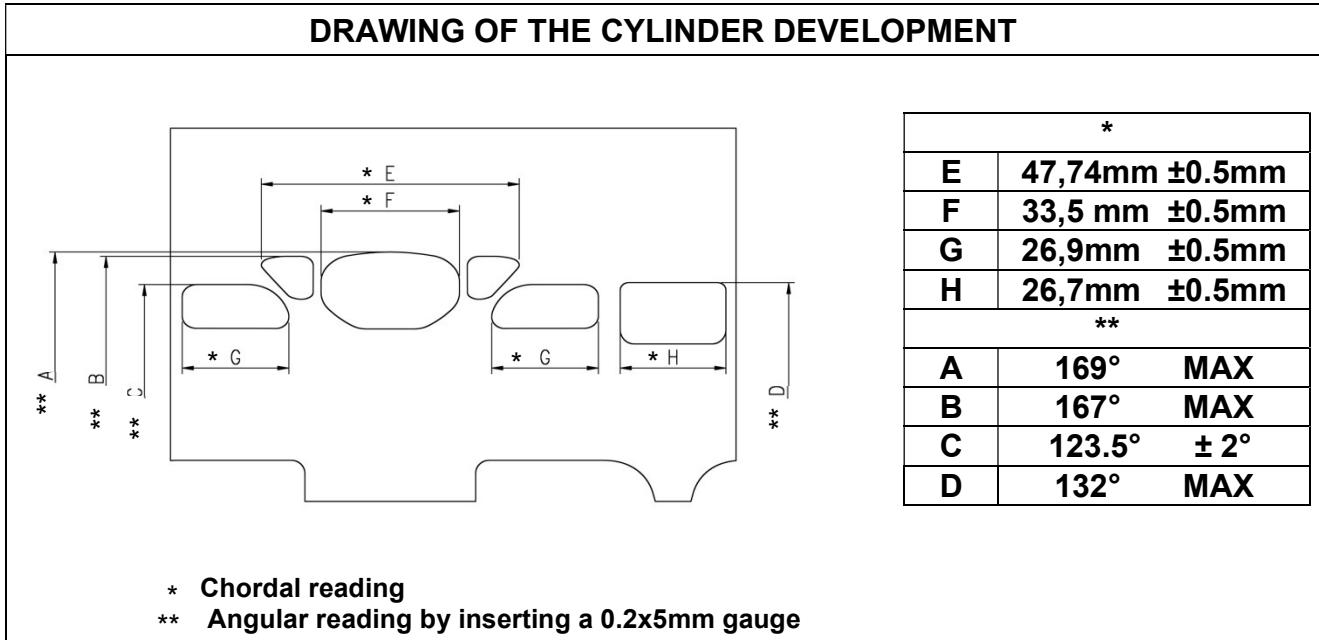
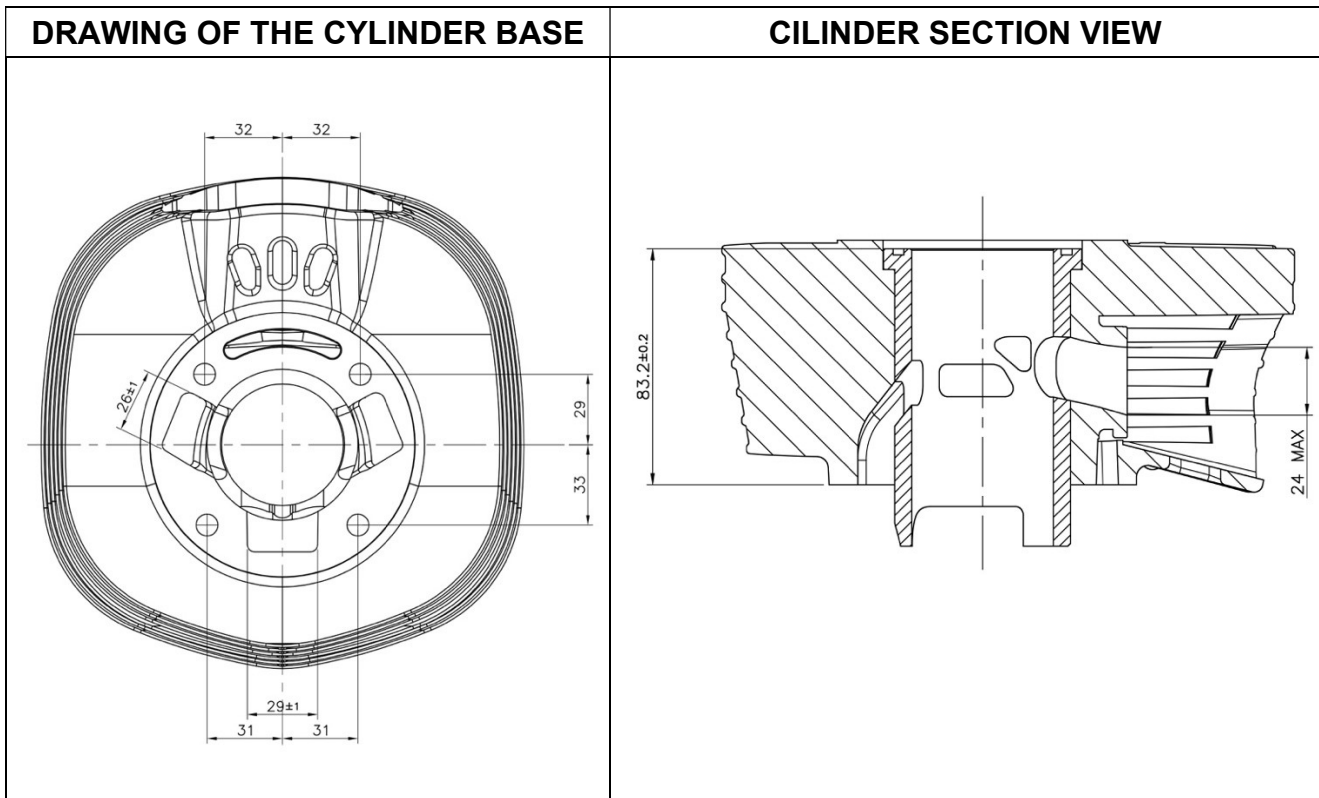


<b>TECHNICAL INFORMATION</b>		
<b>CHARACTERISTICS</b>		
	<b>Measurement</b>	<b>Tolerances</b>
<b>Volume of cylinder</b>	98.53 cc	<b>100cc Max.</b>
<b>Original bore</b>	48.20 mm	<b>±0.2</b>
<b>Theoretical maximum bore</b>	48.53 mm	<b>Max.</b>
<b>Stroke</b>	54.00 mm	<b>± 0.2 mm</b>
<b>Cooling system</b>	Air-cooled	
<b>Carburettor typ.</b>	Tillotson HW-38A	
<b>Number of transfer ports/ducts, cylinder/sump</b>	3	
<b>Number of exhaust ports/ducts</b>	1+2 (1 elliptical port plus 2 boosters)	
<b>Shape of combustion chamber</b>	Spherical with squish	
<b>Length between axes of the Connecting rod</b>	102 mm	<b>± 0.2 mm</b>
<b>Number of piston rings</b>	1	
<b>Volume of combustion chamber</b>	9.2 cc	<b>Min.</b>
<b>Type of bearings and size</b>	Conrod big end bearing = 20x26x15 Conrod small end bearing = 14x18x17 Crankshaft bearings = 25x52x15	

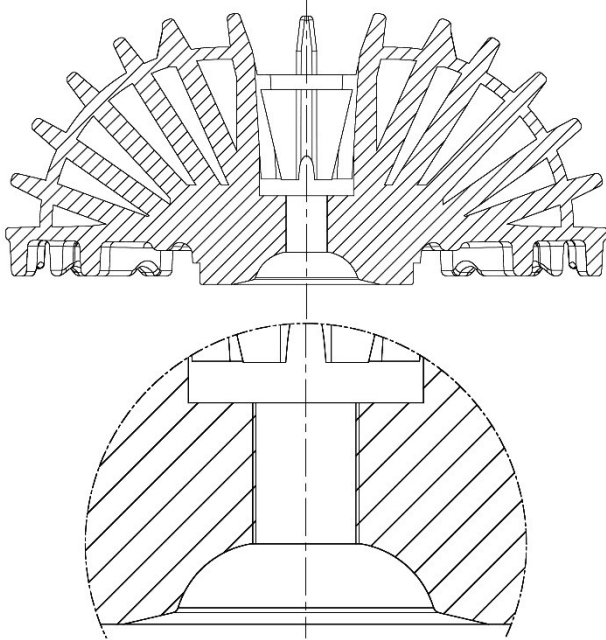
	<b>MATERIAL</b>	<b>Weight</b>	<b>Tolerances</b>
<b>Cylinder</b>	ALLOY		
<b>Connecting rod</b>	STEEL	<b>102.5g</b>	<b>± 15g</b>
<b>Crankshaft</b>	STEEL	<b>1870g</b>	<b>Min.</b>
<b>Head</b>	ALLOY		
<b>Conrod</b>	CAST IRON	<b>127g</b>	<b>Min.</b>
<b>Crankcase</b>	ALLOY		
<b>Piston</b>	ALLOY	<b>95g (+Piston ring)</b>	<b>Min.</b>
<b>Piston Ring</b>	CAST IRON		
<b>Clutch</b>		<b>523g+273g</b>	<b>± 25g</b>
<b>Exhaust</b>		<b>1900g</b>	<b>Min.</b>



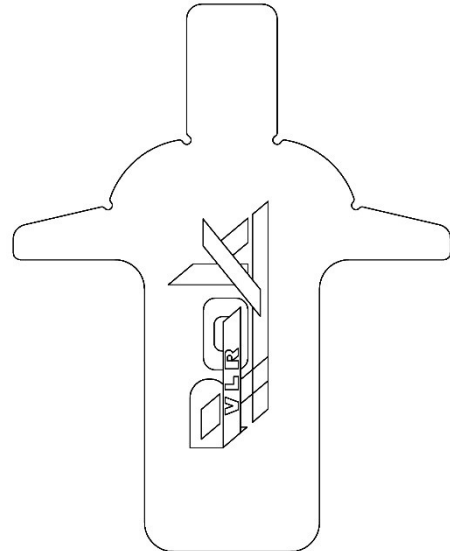
PISTON Min. weight 95g	PISTON PICTURE
<p>Technical drawing of a piston showing dimensions: 27.2±0.1, 2±0.1, 59.5±0.4, 28±0.2, and 25.4±0.6.</p>	<p>Photograph of a blue piston.</p>
CONROD Min. weight 127g	CONROD PICTURE AND MARKING
<p>Technical drawing of a conrod showing dimensions: 102±0.2 and 14.9±0.2.</p>	<p>Photograph of a grey conrod with a red circle highlighting a marking. An inset shows the marking "VORTEX".</p>



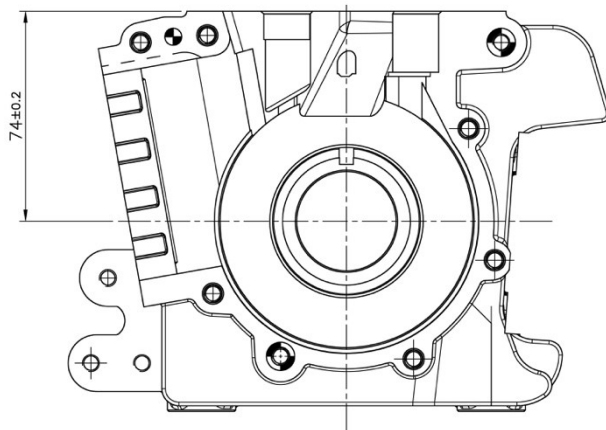
**DRAWING OF COMBUSTION CAMBER**



**COMBUSTION CAMBER TECH TOOL**

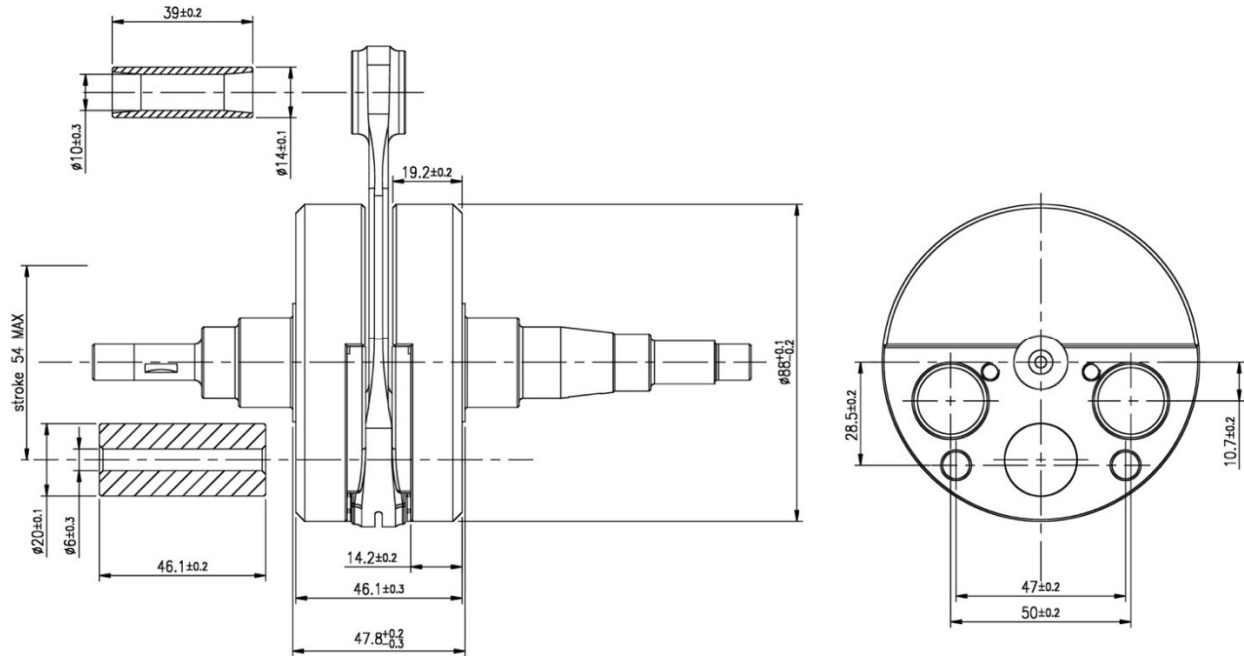


**DRAWING OF THE INSIDE SUMP**

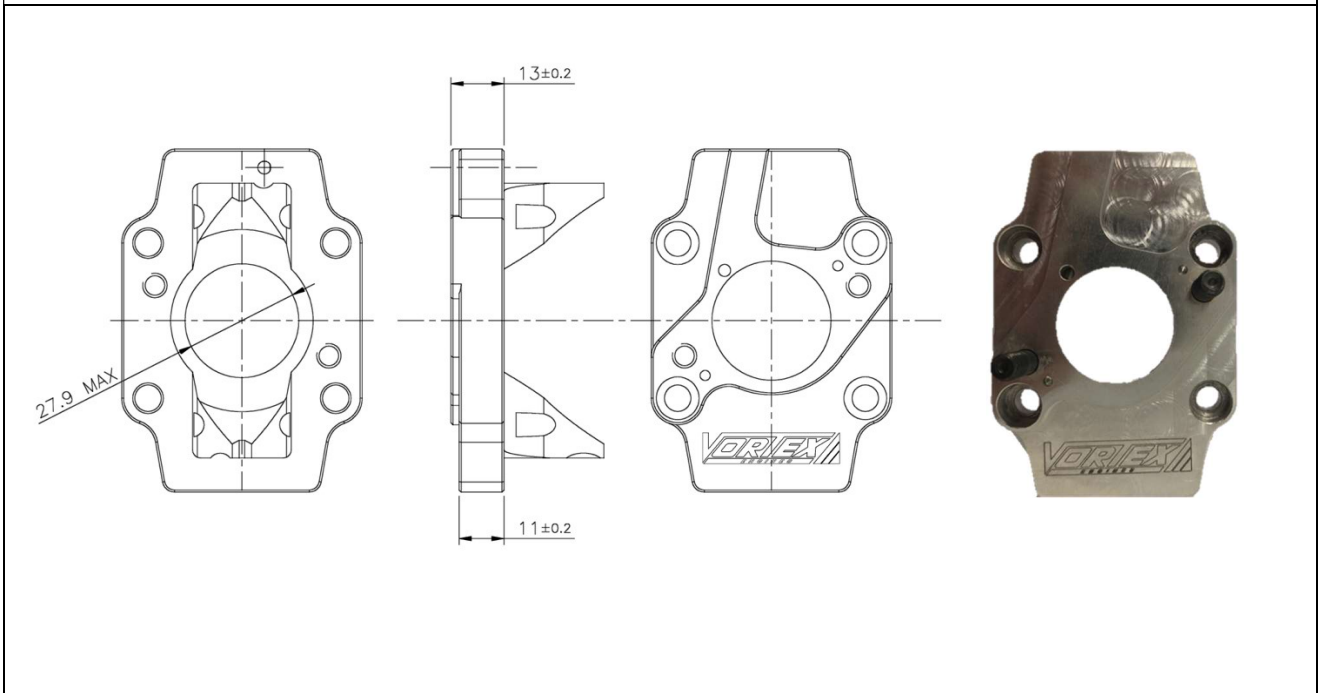


### DRAWING OF THE CRANKSHAFT

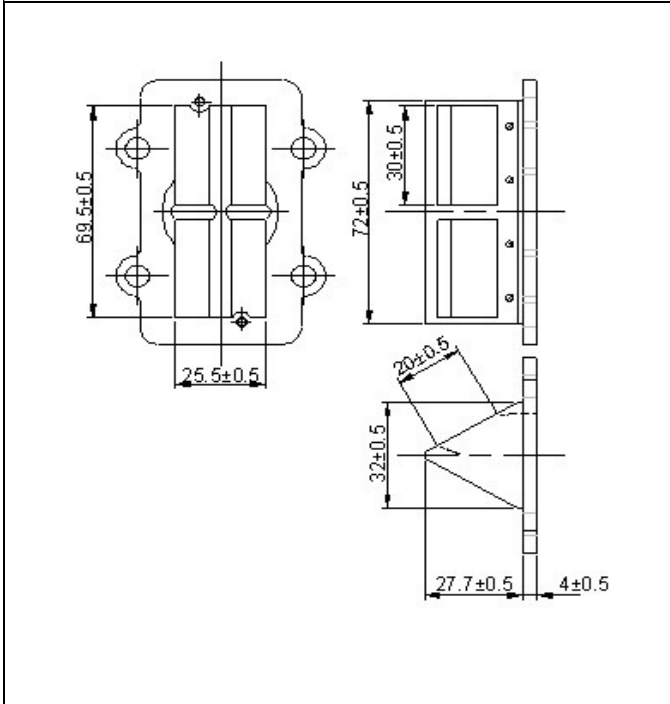
Piston pin Min. weight 19g



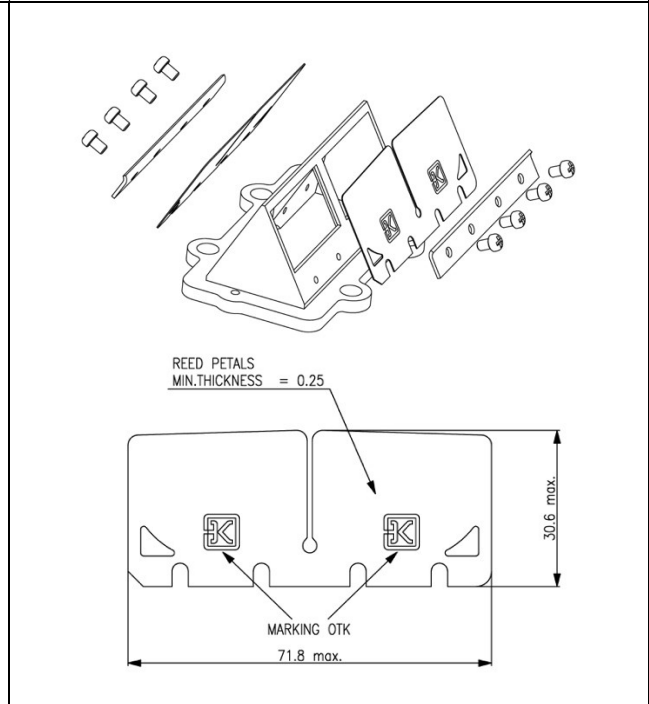
### INTAKE MANIFOLD



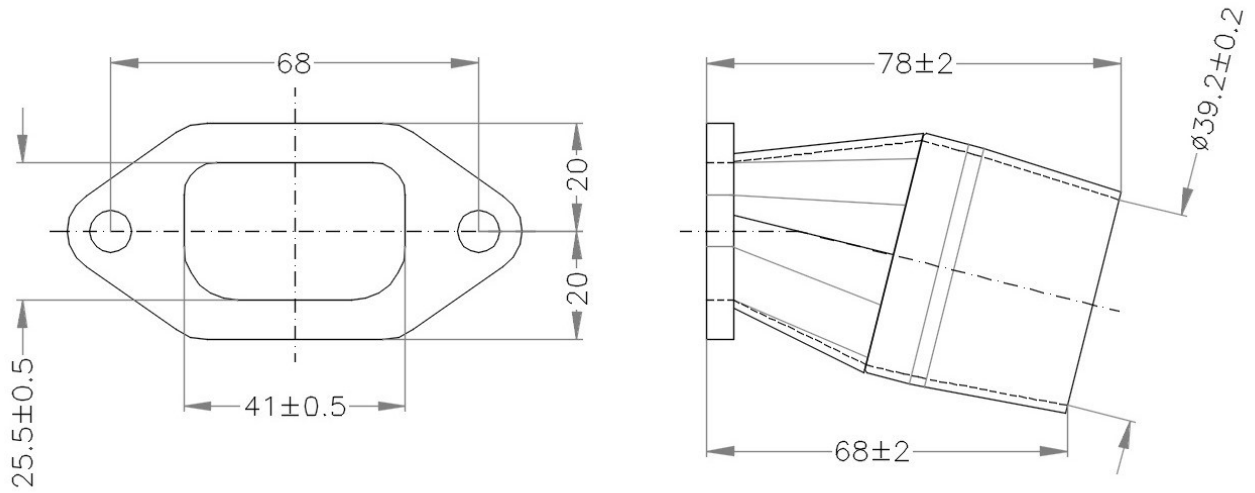
### CONVEYOR



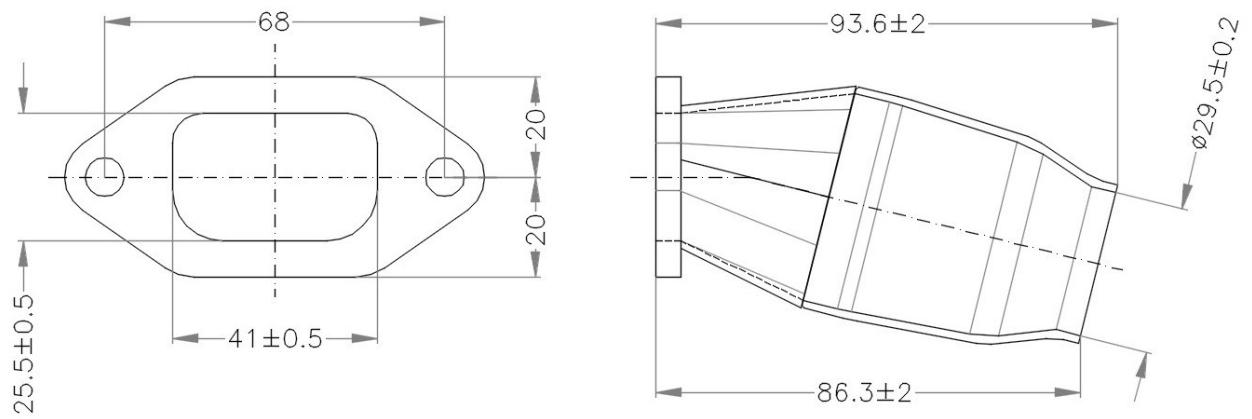
### REED VALVE



### MANIFOLD

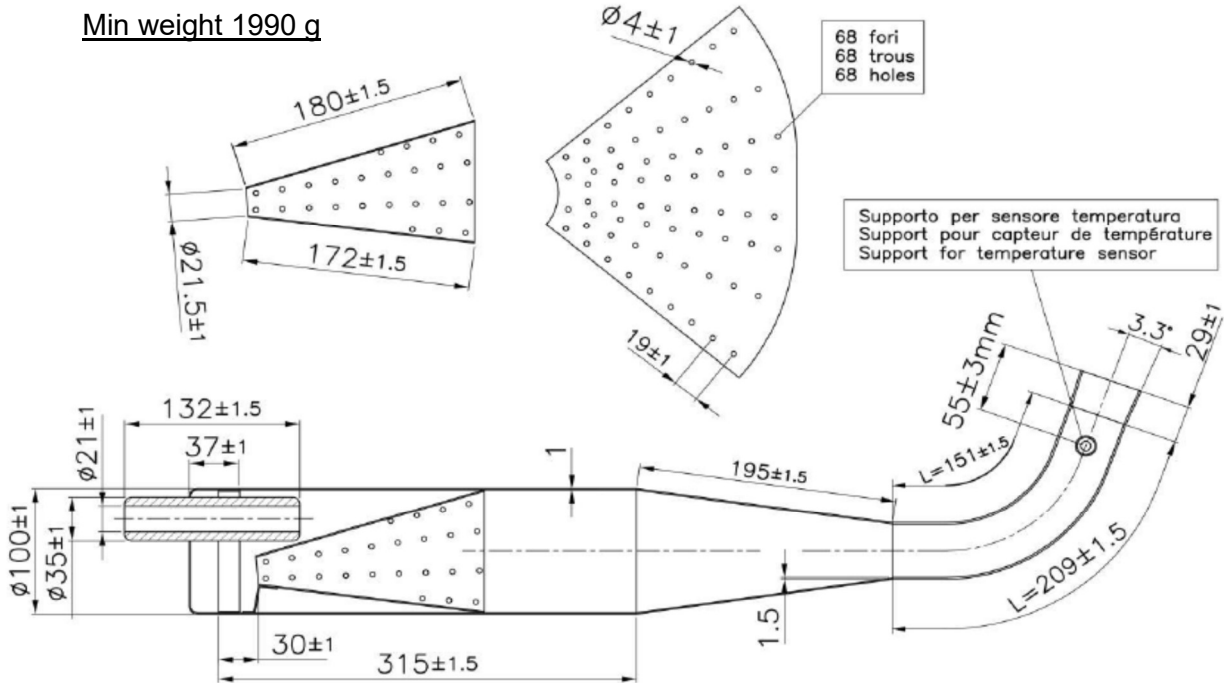


### MANIFOLD JUNIOR (RESTRICTED)





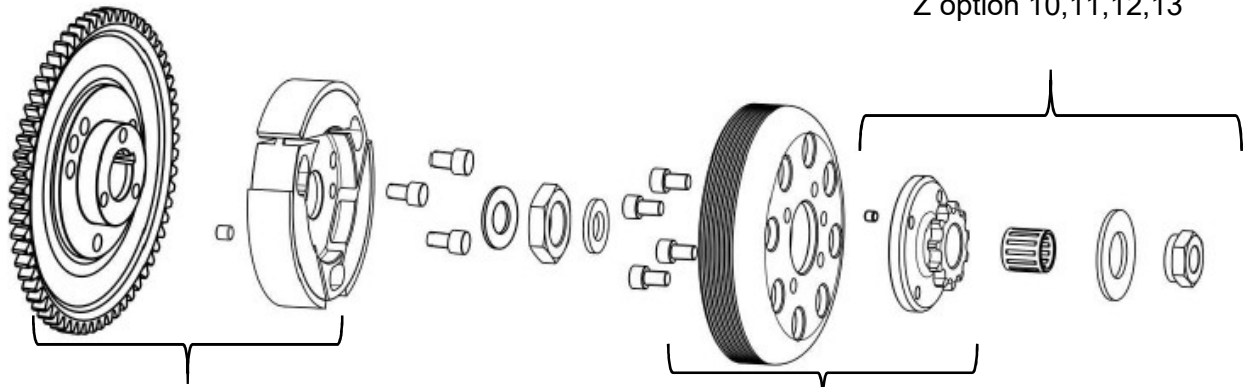
## DRAWING OF THE SILENCER AND IT'S COMPONENTS



The end parts of the silencer must have two soldered pairs of lugs (one pair at the top and one pair at the bottom) to allow for fixing of seals by the Organizer so that the silencer may be opening during the competition.

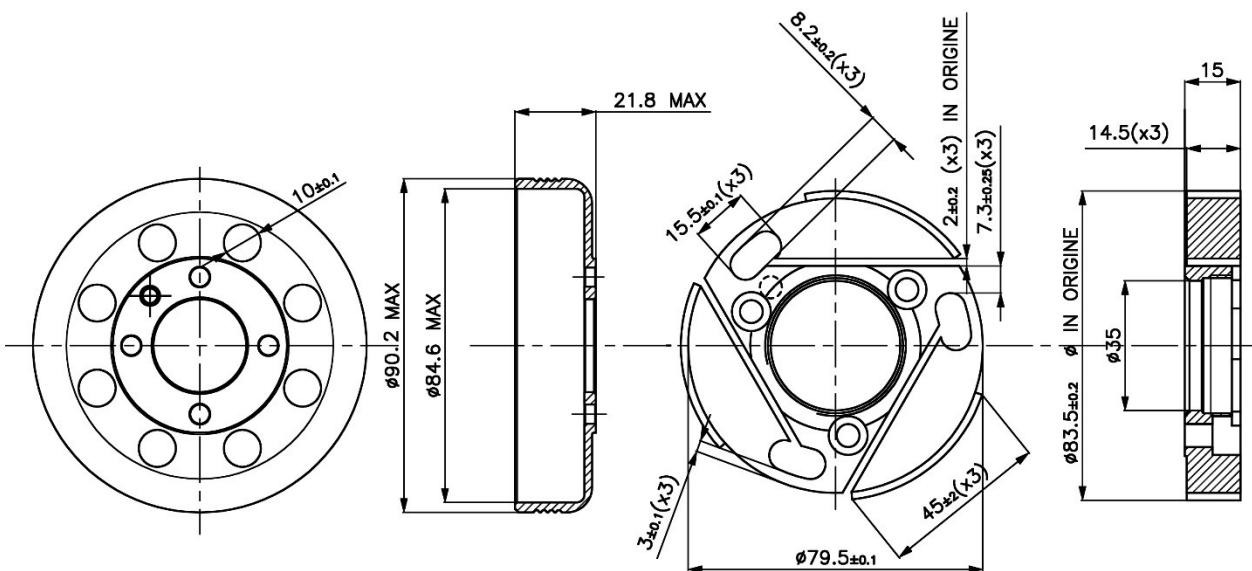


## DRAWING OF THE CLUTCH



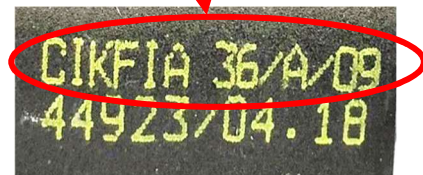
Weight of clutch rot and housing  $523 \pm 25g$

Weight of drum clutch and pinion:  $273g \pm 25g$

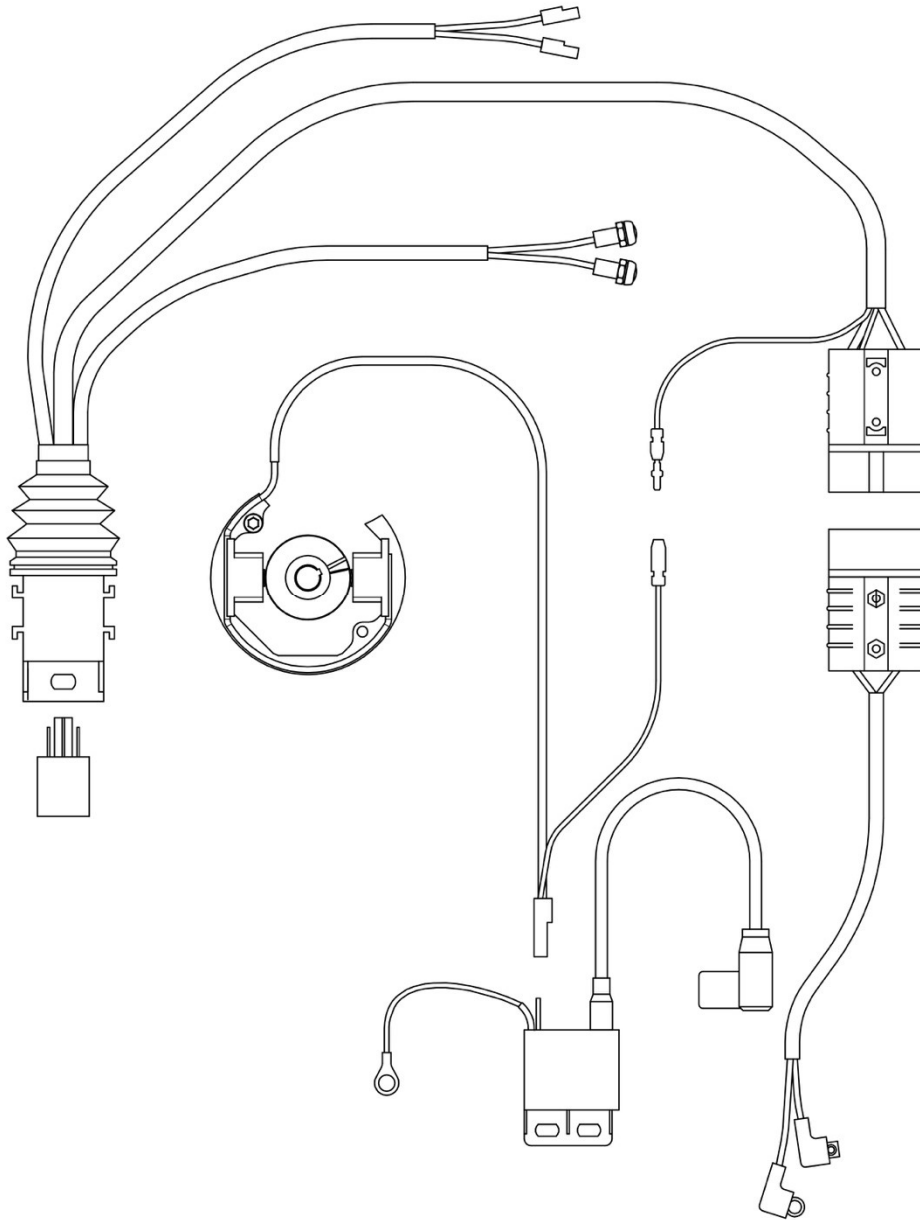


PESO TOTALE DEL ROTORE FRIZIONE COMPLETO CON INGRANAGGIO AVVIAMENTO E CAMPANA TOTAL WEIGHT OF COMPL. CLUTCH ROTOR WITH STARTING GEAR:AND CLUTCH HOUSING	815g +/- 25g
REGIME DI ATTACCO (MASSIMO) VERIFICABILE IN OGNI MOMENTO DELLA MANIFESTAZIONE ENGAGEMENT SPEED (MAXIMUM) CAN BE VERIFIED IN EVERY MOMENT OF THE EVENT	6000 RPM
PESO DEL ROTORE FRIZIONE WEIGHT OF CLUTCH ROTOR	345 g +/- 15g
PESO DELLA CAMPANA WEIGHT OF CLUTCH HOUSING	178 +/-10g
PESO TOTALE DEL GRUPPO ROTORE E CAMPANA FRIZIONE TOTAL WEIGHT OF CLUTCH ROTOR AND HOUSING	523 g +/- 25g

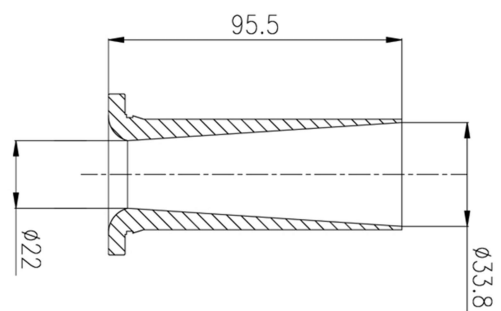
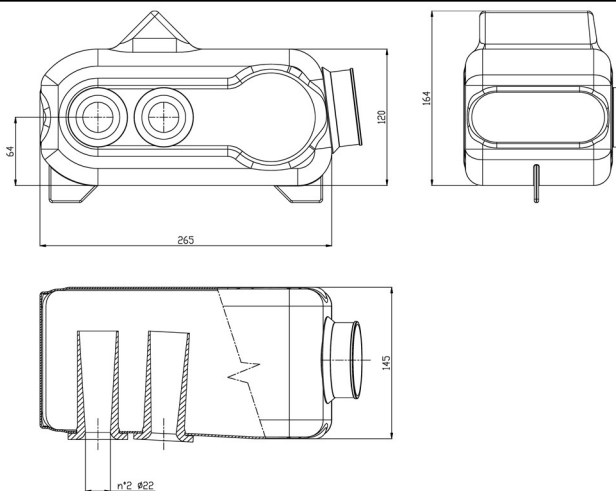
**PHOTO OF IGNITION SYSTEM**



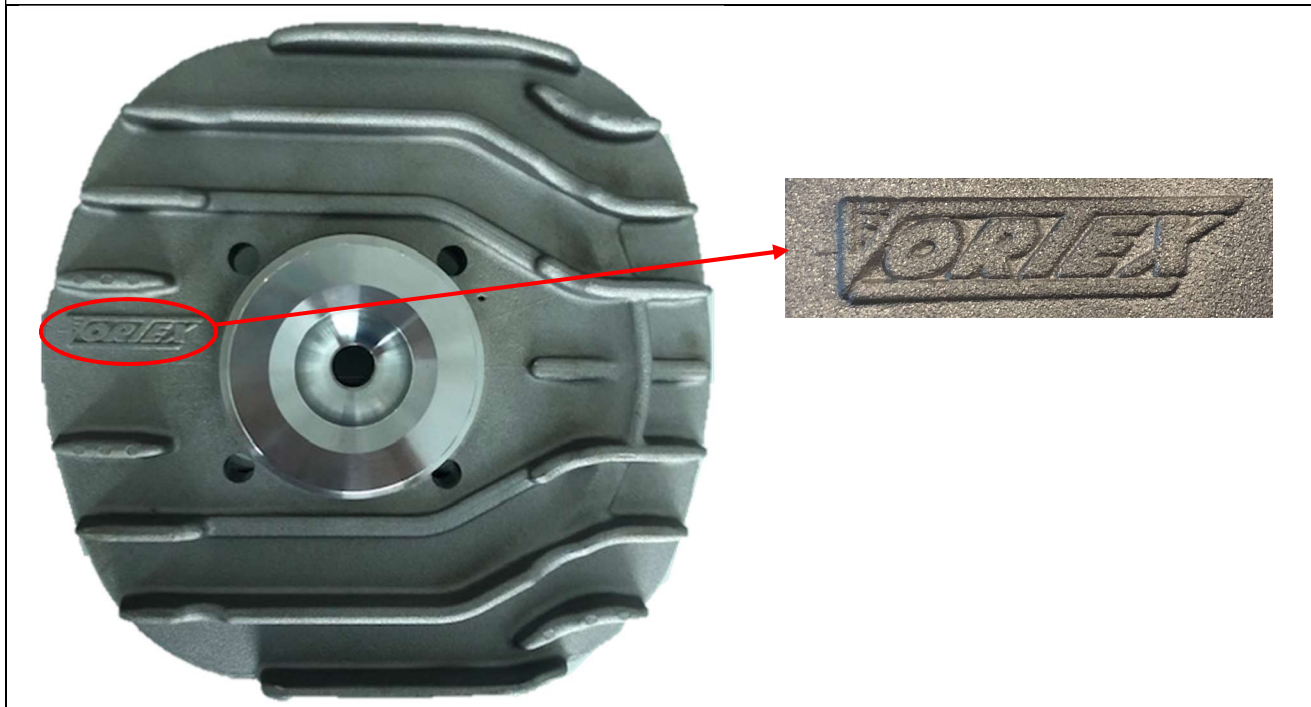
## ELECTRIC SYSTEM ROUTING



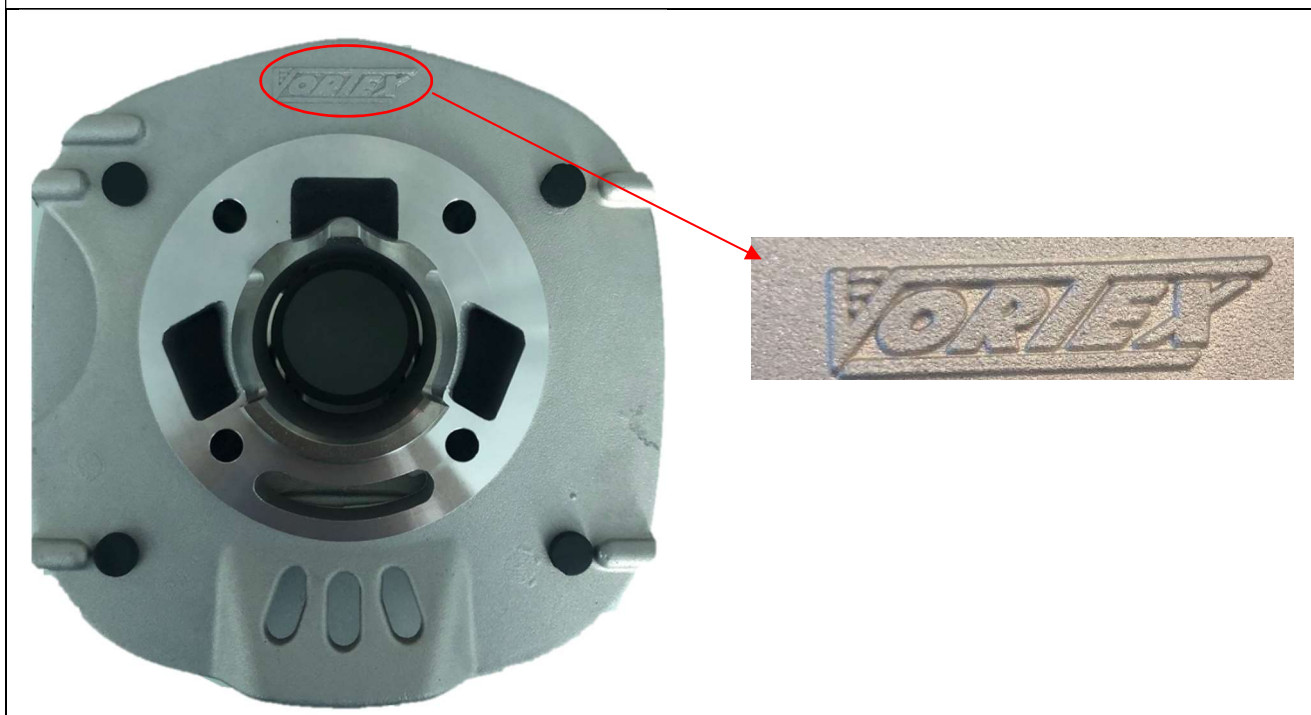
**AIR BOX TYPE "C" 0225.GLA22**



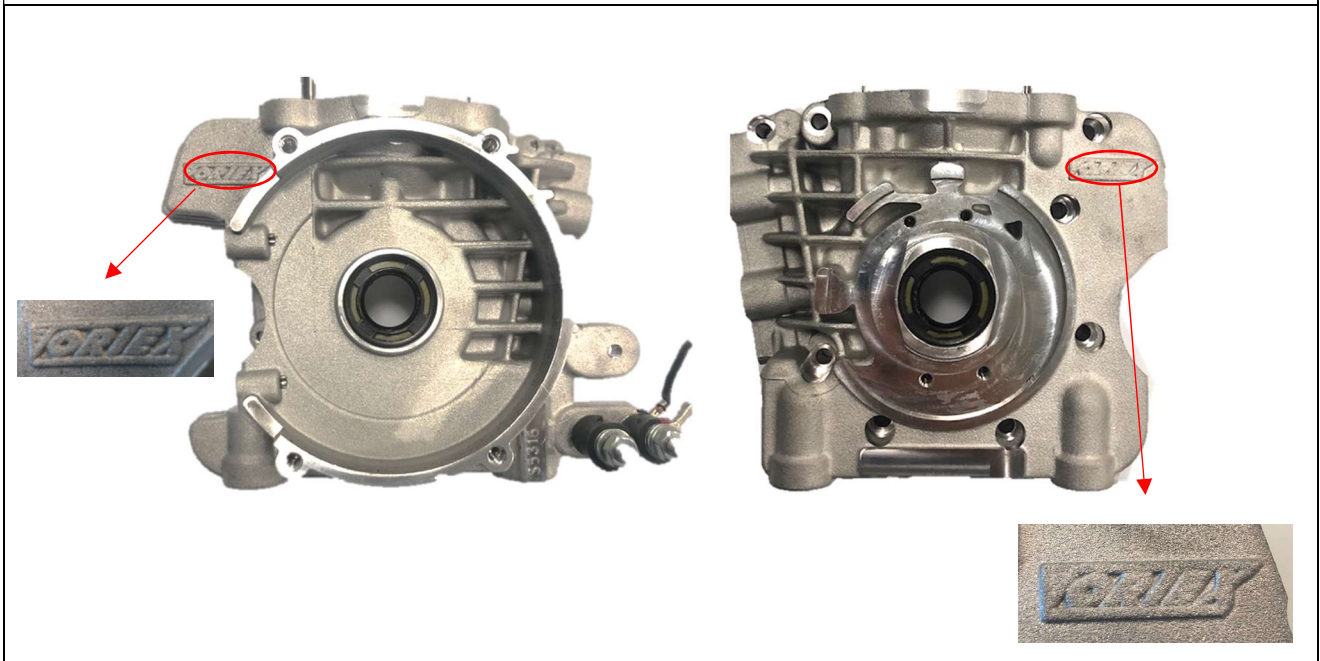
### ENGINE HEAD IDENTIFICATION MARKING



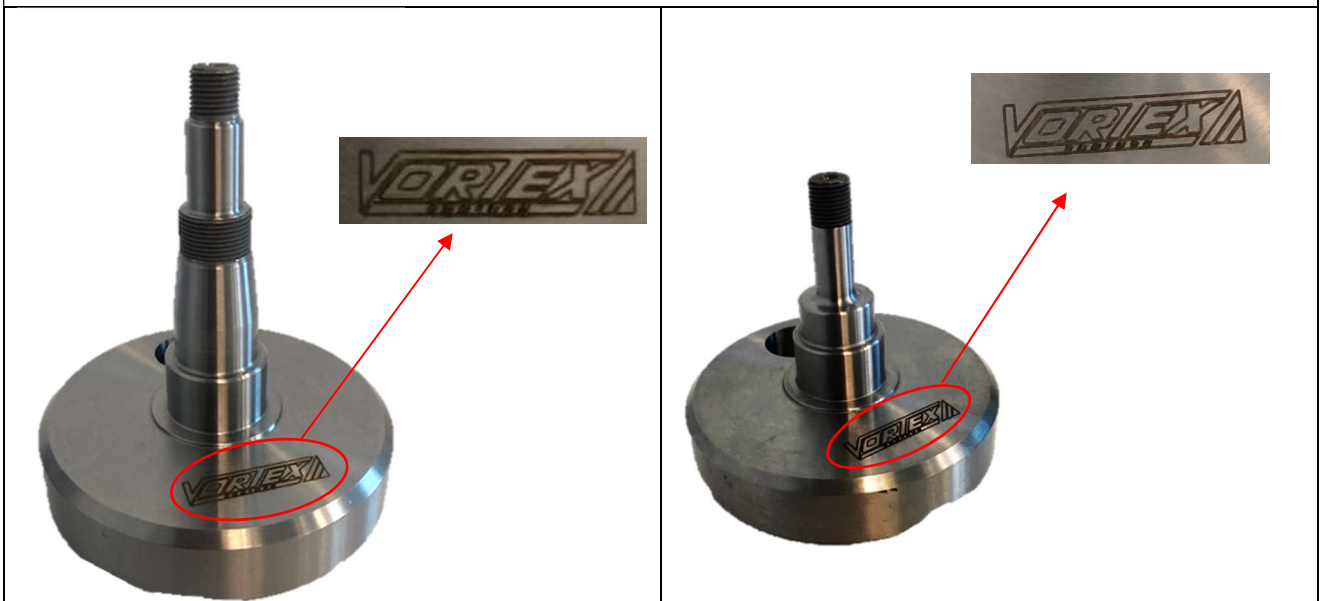
### CYLINDER IDENTIFICATION MARKING

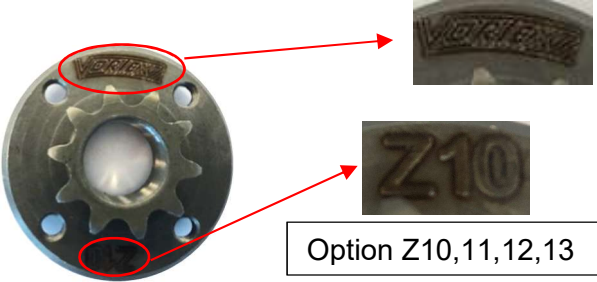
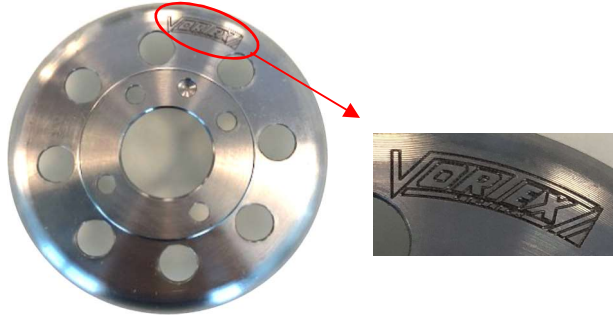




### CRANKCASE IDENTIFICATION MARKING



### CRANKSHAFT IDENTIFICATION MARKING



SPROKET IDENTIFICATION MARKING	CLUTCH DRUM ID. MARKING
 <p data-bbox="438 772 766 817">Option Z10,11,12,13</p>	
CLUTCH BODY ID. MARKING	STARTER RING ID. MARKING
 <p data-bbox="550 1512 774 1579">1751/1KF</p>	 <p data-bbox="1220 1534 1412 1601">1753/MR</p>