Minelli s.r.l.

LAVORAZIONI MECCANICHE DI PRECISIONE
SU CENTRI DI LAVORO MULTIPALLET

San Matteo della Decima (Bo) - Via Sardegna, 21
Tel. 051.6824289 - Fax 051.6826399
E-mail:minelli@minellisrl.com WEB:www.minellisrl.com

Minelli Srl

Precision Machining

Turning, Milling, Drilling

Minelli srl was established in 1972 by Alfio Minelli and it is today managed by his 4 sons. The company ,extended on 4000 square meters has a staff of 30 employees working constantly to provide a top quality service to its customers.

The sectors in which we operate are:

Mechanical Engineering ,

Gear boxes for agriculture ,

Gear boxes for industry

Body pump for water end hydraulic

Hydraulic manifold,

Components for motorcycles

Body electric motor

We work every type of material :steel, cast iron, all aluminum alloys, brass, bronze

The main principles which inspire the present and future strategies of Minelli srl can be summarised in just three words: Quality, Flexibility and Service, with complete supply packages based on the customer's expectations, to ensure satisfaction.

Machine Park

Minelli srl presents a wide park of CNC and precision machines for machanical tooling. The company is organized to work 24 hours to satisfy every need in terms of quality and flexibility

Horizontal machining centers			
N°1 MAZAK FH – 6800 FMS	*1050x800x880*	*240 TOOLS ISO 50*	*16 PALLETS 630x630*
N°1 M.C.M.CLOCK 1200 MP17	*1200x850x850*	*300 TOOLS HSK 100*	*17 PALLETS 630x630*
N°1 MAZAK HCN – 6000 FMS	*800x800x800*	*240 TOOLS ISO 50*	*8 PALLETS 630x630*
N°2 M.C.M CLOCK FMC 1200	*1200x850x850*	*450 TOOLS HSK100*	*32 PALLETS 630x630*
N°1 M.C.M.CLOCK 1200 MP10	*1200x850x850*	*300 TOOLS HSK100*	*10 PALLETS 630x630*
N°1 MAZAK HCN - 6800 FMS	*1050x900x980*	*240 TOOLS ISO 50*	*16 PALLETS 800x630*

TURNING CENTERS

N°1 DAEWOO PUMA 300 MB
N°1 DAEWOO PUMA 350 A
N°1 DAEWOO PUMA 240
N°3 DAEWOO PUMA 400
N°1 OKUMA V 40 DOUBLE SPINDLE VERTICAL
N°1 OKUMA V 60 DOUBLE SPINDLE VERTICAL
N°1 OKUMA LB 3000
N°1 MORI SEIKI SL 25

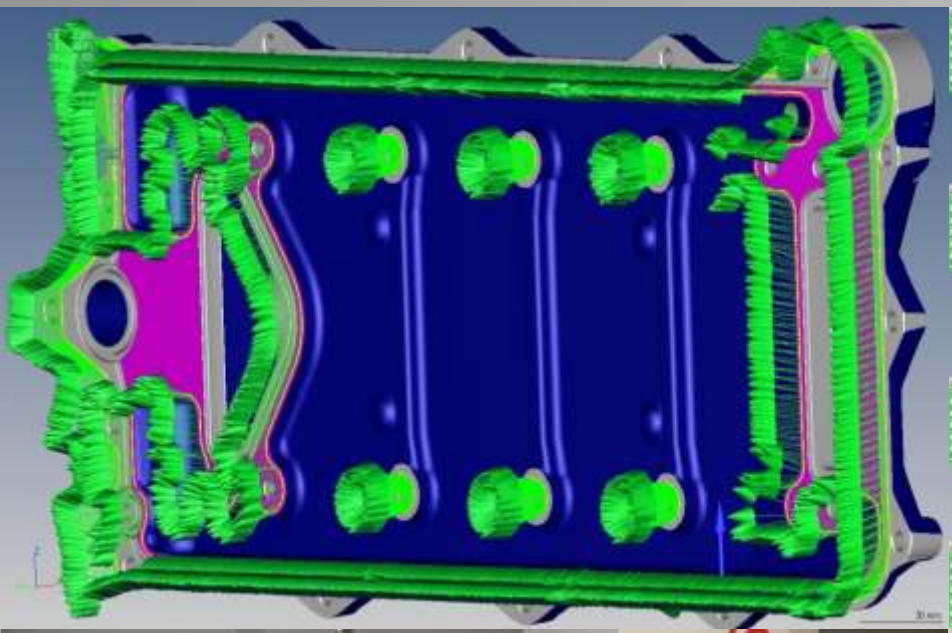
Our lathes reach a diameter of 700 mm to a maximum length of 650 mm.

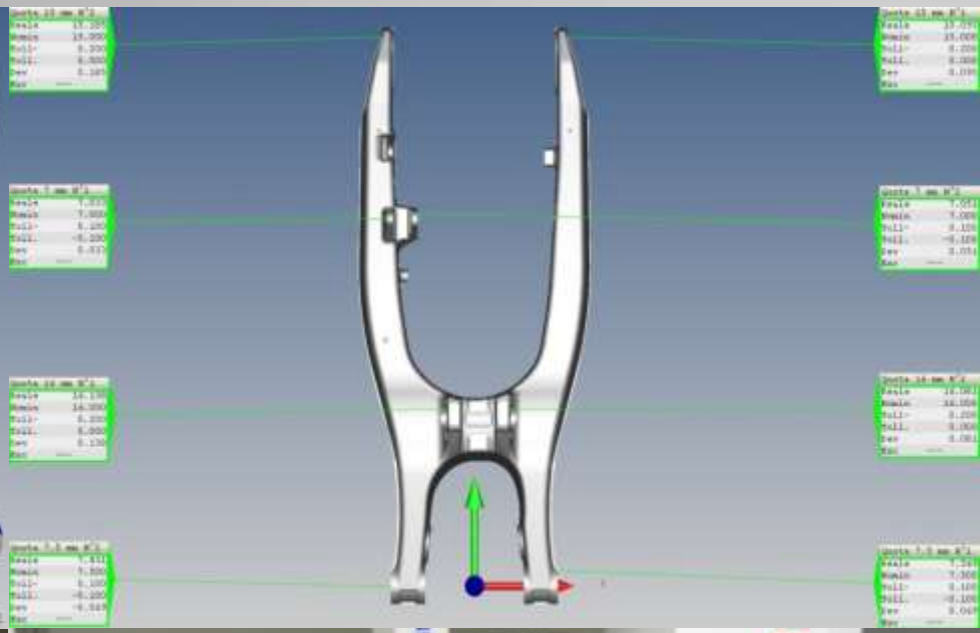
DAEWOO

QUALITY CONTROL

Minelli srl has a metrological room with a constant temperature of 20 ° C characterized by a very high precision machinery.
Three-dimensional measuring machine "PRISMO ZEISS SUPER ACCURACY"
equipped with head
Measuring VAST scanning continuous.

Our three-dimensional Zeiss Prismo Super Accuracy has an accuracy of 0.9 micron to 400 mm. It has a measuring range of 900 x 1200 x 700 mm and is equipped with an importer of mathematical models in STEP format that enables us to program off-line.





We provide test certificates for the particular controlled in both PDF and in Excel format in case cappability and Gage R&R are required.

Controllo Qualità

Minelli...

LAVORAZIONI MECCANICHE DI PRECISIONE SU CENTRI DI LAVORO MULTIPALLET

ZEISS

Nome piano
0.684.0402

No. di disegno
* drawingno *

Operatore
Zavatti Diego

Data
15 Novembre 2013

Ora
9:04:19

Ordine

Numero pezzo incrementale
2

Nome		Attuale	Nominale	Pos Tol	Neg Tol	Diff	<--|-->
Ø 52 H8 N°1 -1-	D	52.012	52.000	0.046	0.000	0.012	
Ø 52 H8 N°2 -1-	D	52.009	52.000	0.046	0.000	0.009	
Ø 62 N7 N°3 -3-	D	61.978	62.000	-0.009	-0.039	-0.022	
Ø 62 N7 N°4 -3-	D	61.978	62.000	-0.009	-0.039	-0.022	
Rotondità Ø 62 N7 N°3 -4-	Rot	0.002	0.000	0.010		0.002	
Rotondità Ø 62 N7 N°4 -4-	Rot	0.000	0.000	0.010		0.000	
Quota 38 N°1 -7-	DistCart	37.999	38.000	0.150	-0.150	-0.001	
Quota 38 N°2 -7-	DistCart	37.935	38.000	0.150	-0.150	-0.065	
Ø 62 N7 N°1 -12-	D	61.970	62.000	-0.009	-0.039	-0.030	
Ø 62 N7 N°2 -12-	D	61.970	62.000	-0.009	-0.039	-0.030	
Rotondità Ø 62 N7 N°1 -13-	Rot	0.006	0.000	0.010		0.006	
Rotondità Ø 62 N7 N°2 -13-	Rot	0.005	0.000	0.010		0.005	
Quota 2.65 mm N°1 -18-	DistCart	2.769	2.650	0.140	0.000	0.119	
Quota 19.1 mm N°1 -19-	DistCart	19.030	19.100	0.100	-0.100	-0.070	
Quota 71.4 mm N°1 -20-	DistCart	71.450	71.400	0.100	0.000	0.050	
Interasse 134 mm N°1 -21-	Y	-133.997	-134.000	0.050	-0.050	-0.003	
Interasse 134 mm N°2 -22-	Y	133.997	134.000	0.050	-0.050	-0.003	
Ø 76 mm N°1-26-	D	75.938	76.000	0.000	-0.100	-0.062	
Ø 76 mm N°2 -26-	D	75.942	76.000	0.000	-0.100	-0.058	
Quota 9.6 mm N°1 -30-	DistCart	9.600	9.600	0.050	-0.050	0.000	
Quota 9.6 mm N°2 -30-	DistCart	9.623	9.600	0.050	-0.050	0.023	
Quota 89 mm -33-	Z	-88.980	-89.000	0.050	-0.050	-0.020	
Quota 52.9 mm N°1 -34-	Z	52.893	52.900	0.050	-0.050	-0.007	
Quota 52.9 mm N°2 -34-	Z	52.853	52.900	0.050	-0.050	-0.047	
Quota 66 mm N°1 -36-	Z	66.017	66.000	0.100	-0.100	0.017	
Quota 66 mm N°2 -36-	Z	65.994	66.000	0.100	-0.100	-0.006	
Quota 224.5 mm N°2 -39-	Y	-224.467	-224.500	0.100	-0.100	-0.033	
Ø 83.5 mm -41-	D	83.348	83.500	0.000	-0.300	-0.152	
Ø 78 H12 -42-74-	D	78.106	78.000	0.300	0.000	0.106	
Ø 75 M7 N°1 -43-	D	74.984	75.000	0.000	-0.030	-0.016	
Ø 65 H12 N°2 -50-	D	65.053	65.000	0.300	0.000	0.053	
Ø 62 M7 N°2 -51-	D	61.993	62.000	0.000	-0.030	-0.007	
Quota 2.65 mm N°2 -54-	DistCart	2.770	2.650	0.140	0.000	0.120	
Quota 54 mm N°1 -57-	Y	-54.002	-54.000	0.050	-0.050	0.002	
Quota 54 mm N°2 -56-	Y	54.022	54.000	0.050	-0.050	0.022	
Ø 62 M7 N°1 -58-	D	61.992	62.000	0.000	-0.030	-0.008	
Ø 65 H12 N°1-59-	D	65.059	65.000	0.300	0.000	0.059	

1

Calypso Measuring Result

Measurement Plan	Date	Order
3,78E+08	12-dic-12	
Drawing No.	**Time**	**Part No.**
3,78E+08	10:27:58	3
Operator	**CMM**	
Master		

Characteristic	Actual	Nominal	Upper Tol	Lower Tol	Deviation
Planarità Rif B	0,030486	0	0,1	0	0,0304856
Ø 62 H7	62,00498	62	0,03	0	0,0049841
Perp Ø 62 - Rif B	0,005021	0	0,05	0	0,0050213
Ø 68 H7	68,01199	68	0,03	0	0,0119899
Perp Ø 68 - Rif B	0,004004	0	0,05	0	0,0040043
Ø 47 H7	47,01153	47	0,025	0	0,0115348
Perp Ø 47 - Rif B	0,004115	0	0,05	0	0,0041146
Interasse 71 mm	-71,0103	-71	0,03	0	0,010304
Quota 14 mm	14,04259	14	0,05	0	0,0425854
Quota 15 mm	15,02159	15	0,05	0	0,0215897
Ø 8 H7 N°1	8,012212	8	0,015	0	0,0122116
Interasse 186 mm	-185,997	-186	0,02	-0,02	-0,002558
Interasse 30 mm	29,99792	30	0,02	-0,02	-0,0020792
Ø 8 H7 N°2	8,009274	8	0,015	0	0,0092744
Interasse 76 mm	76,00248	76	0,02	-0,02	0,002484
Interasse - 30 mm	-29,9924	-30	0,02	-0,02	-0,0076111
Ø 65 H12	65,09306	65	0,3	0	0,0930619
Quota 19 mm gola	19,02229	19	0,05	0	0,022294
Quota 2,15 mm gola	2,258279	2,15	0,14	0	0,1082792
Quota 31 mm	31,0514	31	0,1	0	0,0513984
Planarità quota 31 mm	0,00676	0	0,1	0	0,0067601
Parall quota 31 - Rif B	0,010425	0	0,1	0	0,0104248

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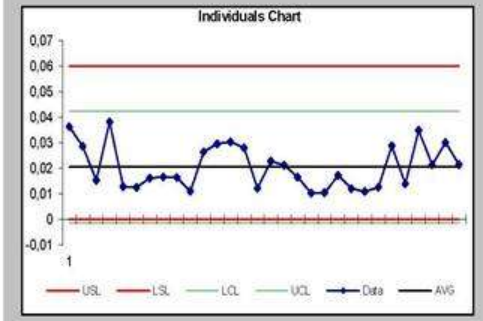
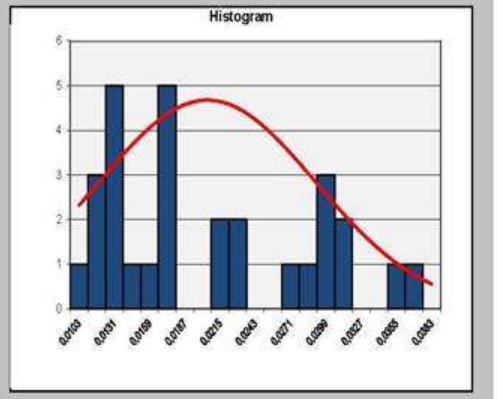
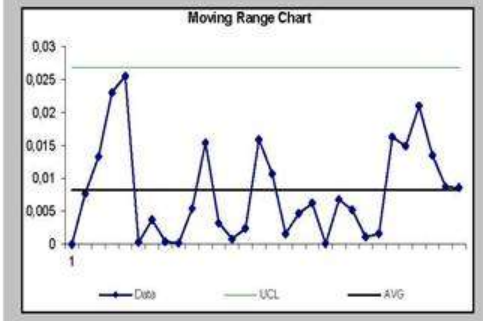
	PROCESS CAPABILITY STUDY	PPAP Number:	Part Number:
Description:		Design / Revision Level:	Organization:
Representative:	Title:	Date:	Signature:

Characteristic:	Upper Spec Limit: 0,06		Subgroup Size: 1
Boundary Limit ☑	Lower Spec Limit: 0		Sampling Frequency: 100%







One or more points are outside the control limits	Pass
More than 9 points in a row on one side of the avg	Pass
Six points in a row increasing or decreasing	Pass
14 points in a row alternating up and down	Pass
More than 2/3rd of pts outside 2 sigma	Pass
More than 1/3rd of pts outside 1 sigma	Fail
15 pts in a row within 1 sigma of centerline	Pass
8 pts in a row more than 1 sigma from centerline	Pass

Process Data	
USL	0,06
LSL	0
# of Samples	30
# of Sub Groups	30
Sub Group Size (n)	1
Max Value	0,0383
Min Value	0,0103
Range	0,028
X Double Bar	0,0204967
R Bar	0,01
St. Dev. (Rbar/d_2)	0,0072817
St. Dev. (Indiv.)	0,0086034
UCL X	0,0423454
LCL X	-0,001352
UCL R	0,0268591
Normality	Normal

Pre-Control Limits	
Upper PC line	0,045
Lower PC line	0,015

Potential Process Capability	
Cp	1,81
CpU	1,81
CpL	n/a
Cpk	1,81

Overall Process Capability	
Cp	1,53
CpU	1,53
CpL	n/a
Cpk	1,53

I MR Chart Limits	
UCL X	0,05184869
LCL X	0,00815131
UCL R	0,0268591

X Median Chart Limits	
UCL X	Sub Grp 2 - 6 only
LCL X	Sub Grp 2 - 6 only
UCL R	Sub Grp 2 - 6 only

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Gauge R&R Study - Data Entry

PPAP Number:	PPAP-MT-GB-9.666.0134.00	Organization Name:	COMER INDUSTRIES - MATERA PLANT
Part Number:	9.666.0134.00	Completed by:	John Smith
Description:	GEARBOX	Study Date:	05/07/12
Design/Revision Level:	02		
Feature Name:	Dimension A	Appraiser Number:	3
Feature Tolerance:	0,072	Part Number:	10
p-Value for Interaction:	0,25 (default is 0.25)	Trials Number:	3
Gauge #/Name:	Prototype Gauge XYZ		
Measurement Principle:	MP-HOLES-04		

Appraiser	Trial #	Part 1	2	3	4	5	6	7	8	9	10	Average
Appraiser A	1	0,056	0,044	0,038	0,048	0,050	0,036	0,058	0,043	0,033	0,039	0,0445
	2	0,056	0,045	0,036	0,048	0,052	0,036	0,055	0,042	0,031	0,041	0,0442
	3	0,058	0,046	0,039	0,048	0,051	0,034	0,055	0,045	0,031	0,040	0,0447
	Average	0,057	0,045	0,038	0,048	0,051	0,035	0,056	0,043	0,032	0,040	0,04446667
	Range	0,002	0,002	0,003	0,000	0,002	0,002	0,003	0,003	0,002	0,002	0,0021
Appraiser B	1	0,054	0,046	0,038	0,048	0,052	0,038	0,054	0,042	0,033	0,042	0,0447
	2	0,052	0,046	0,038	0,050	0,052	0,035	0,055	0,042	0,033	0,041	0,0444
	3	0,055	0,046	0,039	0,050	0,054	0,035	0,053	0,041	0,032	0,043	0,0448
	Average	0,054	0,046	0,038	0,049	0,053	0,036	0,054	0,042	0,033	0,042	0,04463333
	Range	0,003	0,000	0,001	0,002	0,002	0,003	0,002	0,001	0,001	0,002	0,0017
Appraiser C	1	0,055	0,043	0,039	0,049	0,050	0,036	0,056	0,041	0,030	0,040	0,0439
	2	0,055	0,042	0,038	0,047	0,051	0,035	0,055	0,041	0,031	0,041	0,0436
	3	0,054	0,044	0,037	0,048	0,051	0,036	0,056	0,041	0,030	0,041	0,0438
	Average	0,055	0,043	0,038	0,048	0,051	0,036	0,056	0,041	0,030	0,041	0,04376667
	Range	0,001	0,002	0,002	0,002	0,001	0,001	0,001	0,000	0,001	0,001	0,0012
	Part Average	0,055	0,045	0,038	0,048	0,051	0,036	0,055	0,042	0,032	0,041	0,044

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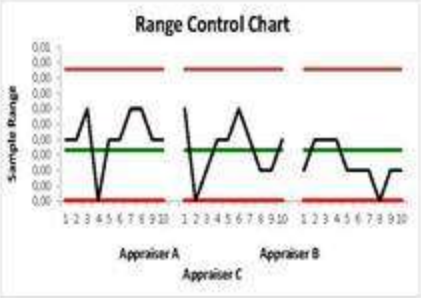
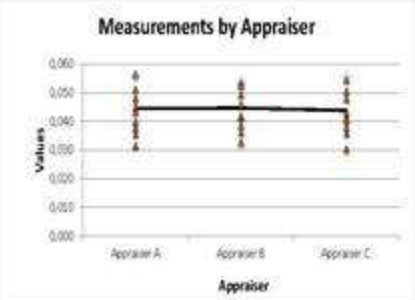
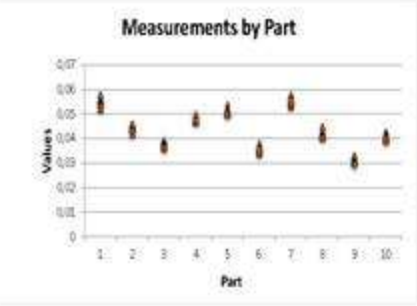
Gauge R&R Study - Graphs

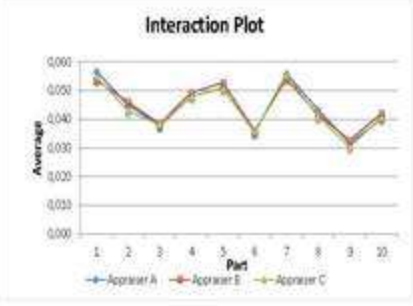
Study Information

PPAP Number:		Organization Name:	
Part Number:		Completed by:	
Description:		Study Date:	
Design/Revision Level:			
Feature Name:	Dimension A	Gauge #/Name:	Prototype Gauge XYZ
Feature Tolerance:	0,072	Measurement Principle:	MP-MDLES-04



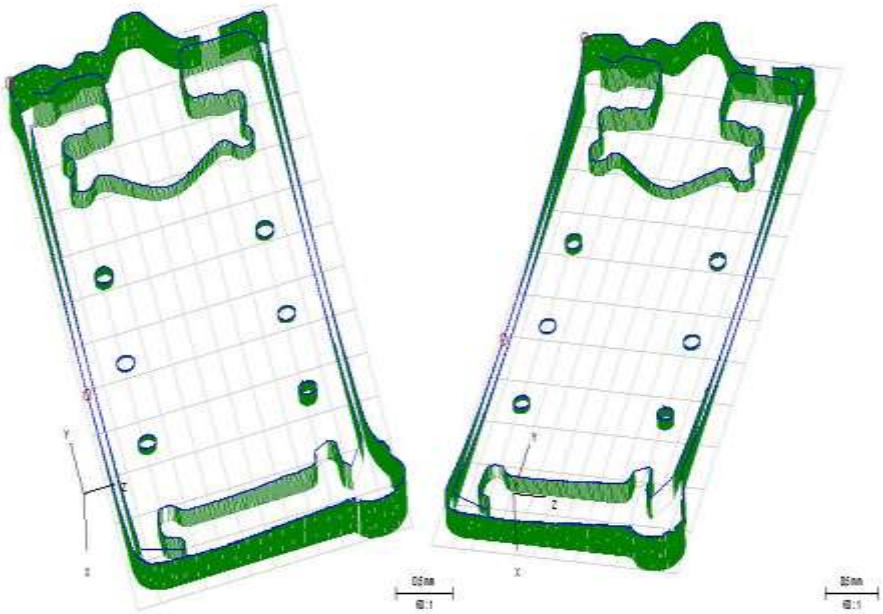






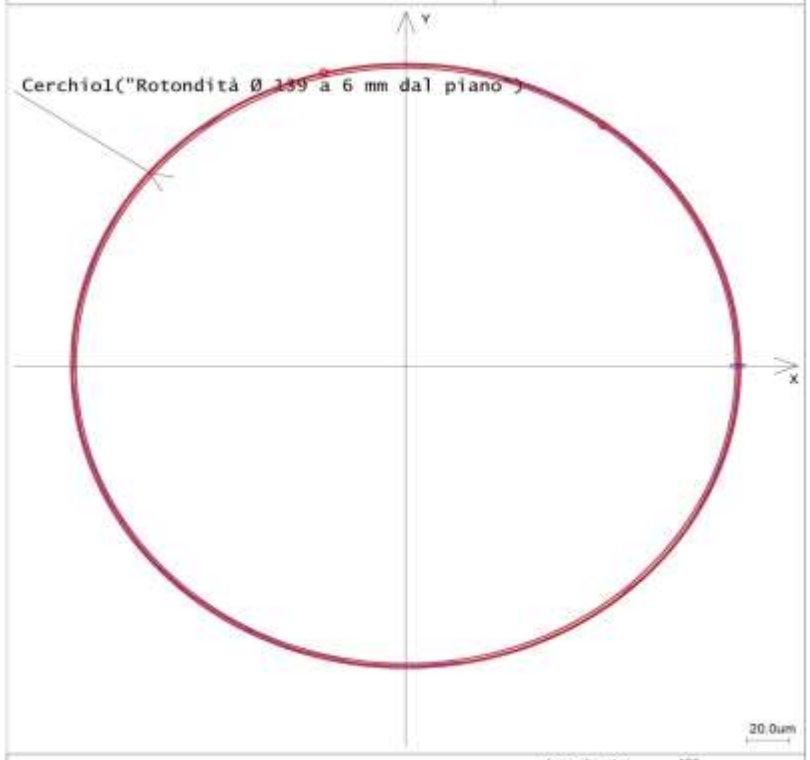
We perform continuous scans on both wheels or cylinders to check roundness and cylindricity on both lines and planes to certify Flatness and Linearity.

ZEISS Calypso 5.4.20	Carl Zeiss	Data 11 Marzo 2013 Ordine	
Numero pezzo 1	Tipo di MMC Prismo	No. di disegno	Reparto: Operatore Master
Nome del piano d... Sammelkasten			Firma:



N.	Identificazione	Valore attuale [mm]	Toll. [mm]	Numero di punti	Vel. [mm/s]	Raggio del tastatore [mm]	TipoFit	L-C	UPR
1	Planarità 0.2 R1A	0,195	0,200	4938	25.00	2,500	Minimi quadrati	2,5	
2	Planarità 0.05 R1A	0,026	0,050	4938	25.00	2,500	Minimi quadrati	2,5	

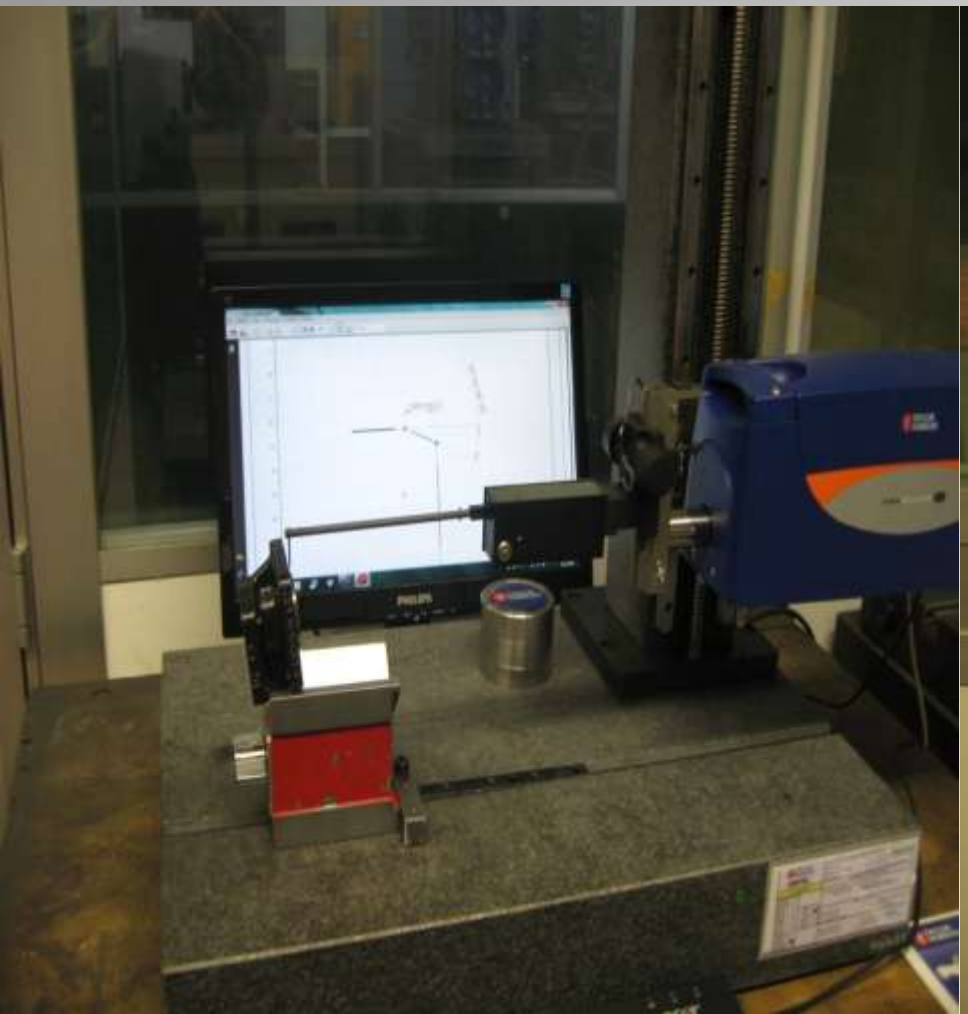
ZEISS Calypso 5.2.20	Carl Zeiss	Data 26 Ottobre 2012 Ordine	
Numero pezzo Anella Diametro 139 - Ø 139	CMM Prismo	No. di disegno D 139 N°4	Reparto: Operatore Master Firma:
Piano di misura D 139 N°4			Rotondità Ø 139 a 6 mm dal piano

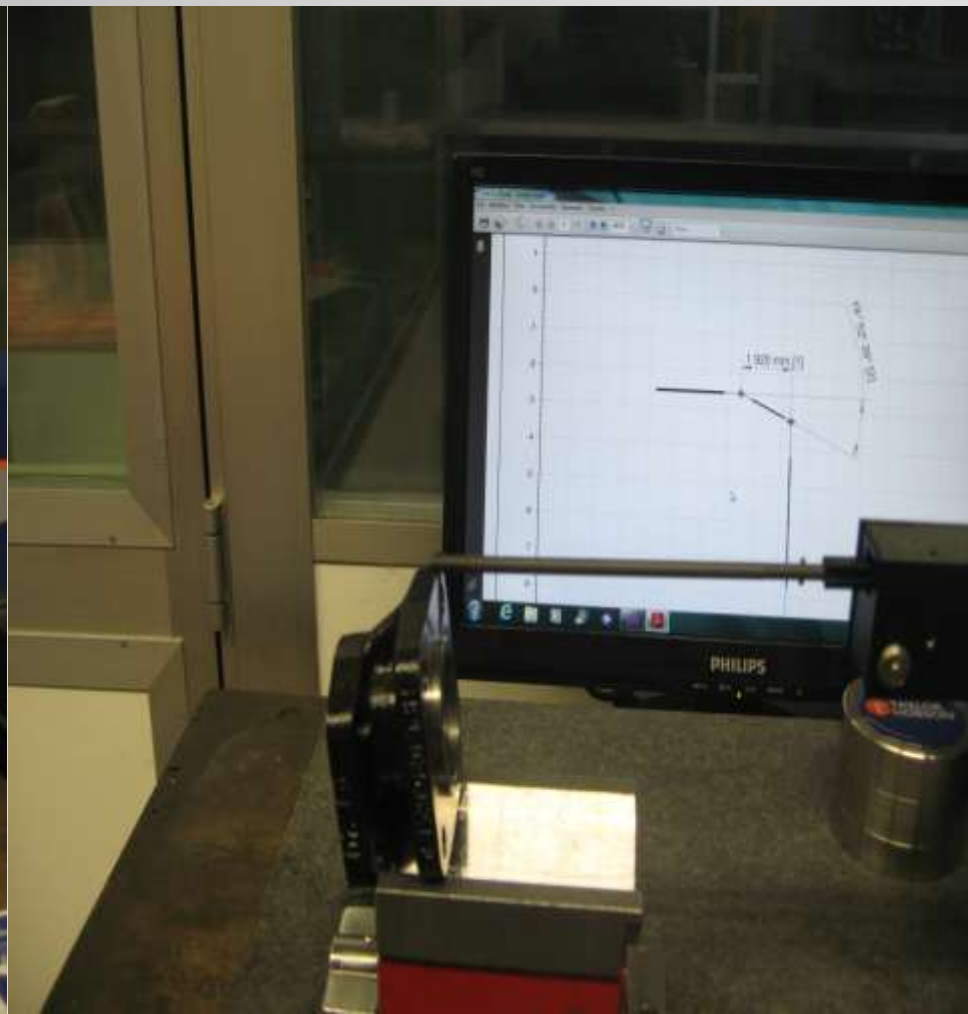


Ingrandimento 500

N.	Identificazione	Valore attuale	Toll.	Numero di	Vel.	Raggio del	TipoFit	L-C	UPR
1	Rotondità Ø 139 a 6 mm dal piano	0.0010	0.0025	696	14	2.5001	Minimi qua		50

Profilometer
"TAYLOR HOBSON"
Measuring range 100 mm





Roughness
"ZEISS SURFCOM 130 A"
Measuring range 50 mm

To reset the measuring instruments we have available 3-AL TAR 300, 500, 1000 mm stroke and a wide range of calibrated ring.

We feature both ceramic and steel Jhonson blocks in Grade 0 that allow us to reset micrometers and gauges accurately

Measuring instruments of last generation: gauges and micrometers x external that allow us to make measurements from 0 to 500 mm, smooth pads from 2 to 50 mm, Metric threaded pads, Gas, Unf.

We have more than 200 bore gauges that allow us to make measurements of internal diameters with a measuring range that starts from 10 mm and reaches up to 300 mm.

A dial indicator Mitutoyo is mounted on each bore gauge that we have in production.

Millesimal that allows us to make measurements to the nearest thousandth.

On each measuring instrument there is a label with the date of the written expiration of each of them.

Periodically, every instrument is checked and recalibrated

Equipment verification tools
Vertical presetting "ZOLLER MAGIC" to control tools
Balancer "HAIMER Tool Dynamic"
Shrink fit "KELCH i-tec”

For each code we have special control plans issued by the testing and control grids that are compiled by the operators on the machine as regards diameters, thicknesses and fillets to check with threaded gauge, while testing provides to control all other shares as distances, errors of form, surface roughness and profiles.

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If a customer requires us samples, we carry out the ISIR, or shot peening shall arrange for the design giving each share a number. This number is then recorded on a Excel sheet where they are written:

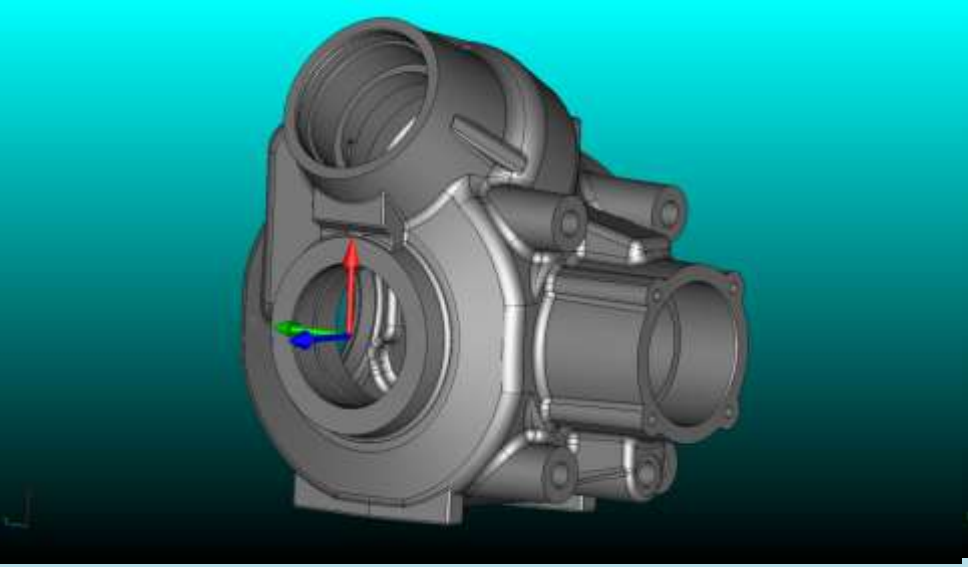
DESCRIPTION OF CONTROL
TOLERANCE
POSITION TO DESIGN
TOOL USED
VALUE DETECTED
RESULT OF CONTROL

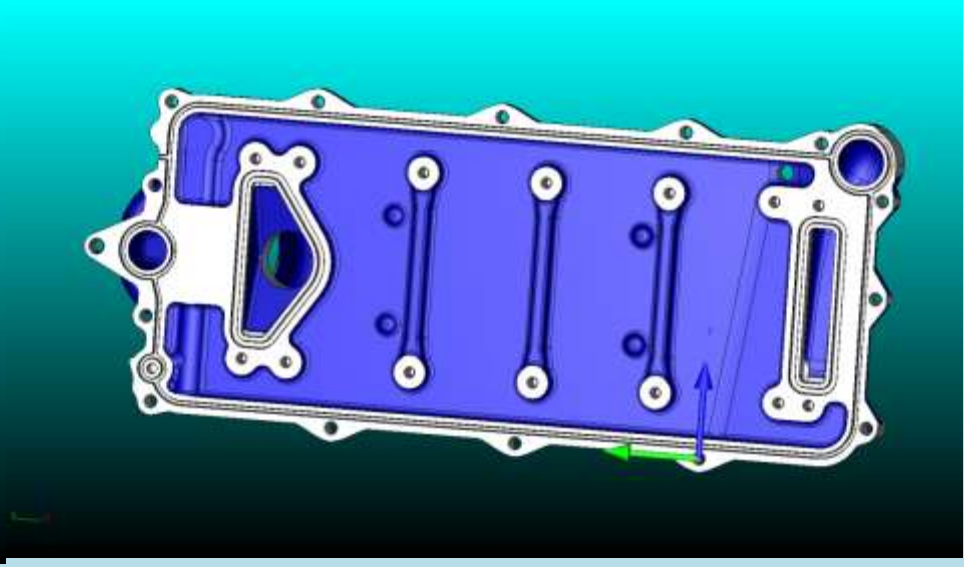
minelli srl	CLIENTE: COMER INDUSTRIES SPA	Particolare: SEMISCATOLA	NUMERO ORDINE:	Fase di Lavorazione: LAVORAZIONE DI CENTRO MAZAK
		Disegno: 0,863,0300	Lotto di N° pz:	

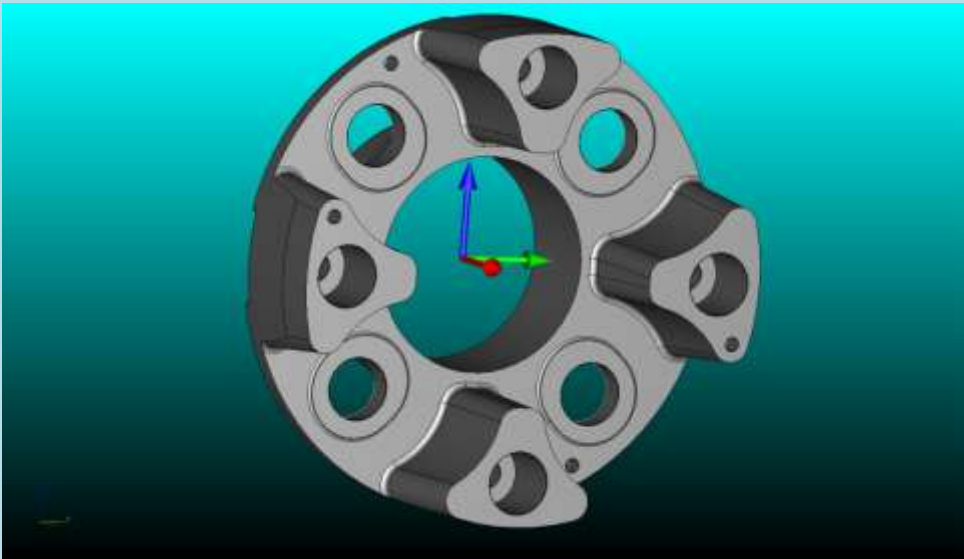
	CARATTERISTICHE:	Quota	Toll.	STRUMENTO	n°pezzo operatore	1	3	5	7	9	11	13	15	17	19	21	23
				DATA PRODUZIONE													
1	N°1 DIAMETRO	Ø120J7	-0,013/+0,022	alesametro 1/1000	<-------->												
2	N°1 DIAMETRO	Ø 90 J7	-0,013/+0,022	alesametro 1/1000	<-------->												
3	N°1 DIAMETRO	Ø 72 J7	-0,012/+0,018	alesametro 1/1000	<-------->												
4	N°1 DIAMETRO	Ø 52 H8	0/+0,046	alesametro 1/1000	<-------->												
5	N°1 DIAMETRO	Ø 30 H8	0/+0,033	alesametro 1/1000	<-------->												
6	N°1 DIAMETRO	Ø 20 H8	0/+0,033	alesametro 1/1000	<-------->												
7	N°2 DIAMETRI	Ø 12 H7	0/+0,015	tampone P-NP	<-------->												
8	QUOTA	163,225	±0,065	3D ZEISS	<-------->												
9	QUOTA	147,52	±0,065	3D ZEISS	<-------->												
10	QUOTA	126,68	±0,065	3D ZEISS	<-------->												
10	QUOTA	105	±0,1	3D ZEISS	<-------->												
11	N° 2 FILETTI M 16		T.U.20	tampone P-NP	<-------->												
13	N° 2 FILETTI M 12		T.U.24,5 MIN	tampone P-NP	<-------->												
14	N° 2 FILETTI M 12		T.U.24 MIN	tampone P-NP	<-------->												
16	N° 2 FILETTI 1/2 GAS		PASSANTI	tampone P-NP	<-------->												
17	N° 1 FILETTO 3/8 GAS		PASSANTI	tampone P-NP	<-------->												
18	N° 8 FILETTI 1/2-13 UNC		PASSANTI	tampone P-NP	<-------->												

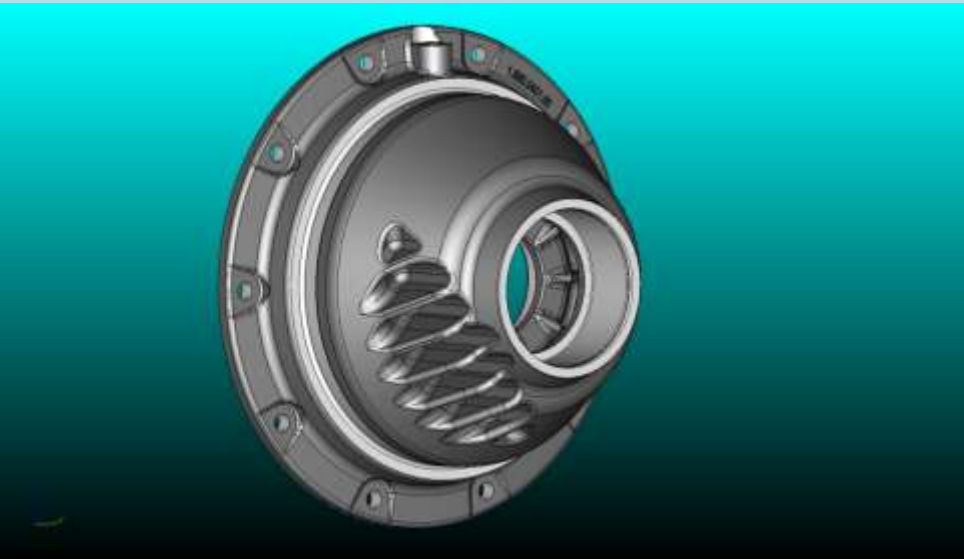
PIANO DI CONTROLLO												
CLIENTE			NUMERO DI DISEGNO			ESP.	DESCRIZIONE					
COMER			0,863,0300			1	SCATOLA					
FASE	LAVORAZIONE	MACCHINA UTENSILE	DESCRIZIONE	TOLLERANZA	CRITICITA'	SPECIFICA	STRUMENTO	FREQUENZA	METODO DI CONTROLLO	VERIFICA STRUMENTO	VERIFICA DIFETTI LAVORAZIONI	PIANO DI REAZIONE
0	VERIFICA GREZZO	CONTROLLARE L'ASSENZA DI POROSITA' E DI BAVE DELLA FUSIONE			-	DISEGNO	VISIVO	TUTTI I PART.	ASPETTO VISIVO		NSQ011	PROCEDURA N°1
1	FRESATURA	MAZAK 6000 - 6800	PLANARITA'	0,13	+	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
2	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 2		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
3	FRESATURA	MAZAK 6000 - 6800	QUOTA 147,52	±0,085	+	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
4	FRESATURA	MAZAK 6000 - 6800	QUOTA 123		-	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
5	FRESATURA	MAZAK 6000 - 6800	Ø 40		-	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
6	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 6		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
7	FRESATURA	MAZAK 6000 - 6800	QUOTA 13		-	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
8	FRESATURA	MAZAK 6000 - 6800	FILETTO 3/8 GAS		-	DISEGNO	TAMPONE FILETTATO	OGNI 2 PART	SCHEDA AUTOCONTROLLO	SETTIMANALE	NSQ011	PROCEDURA N°1
9	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 6		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
10	FRESATURA	MAZAK 6000 - 6800	QUOTA 10		-	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
11	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 6		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
12	FRESATURA	MAZAK 6000 - 6800	PARALLELISMO	0,03	+	DISEGNO	3D ZEISS	OGNI 10 PART	TABULATO ZEISS	SETTIMANALE	NSQ011	PROCEDURA N°1
13	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 3		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
14	FRESATURA	MAZAK 6000 - 6800	SMUSSO 2,5		-	DISEGNO	PROFILOMETRO	OGNI 10 PART	TABULATO PROFILOMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
15	FRESATURA	MAZAK 6000 - 6800	QUOTA 7,5			DISEGNO	PROFILOMETRO	OGNI 10 PART	TABULATO PROFILOMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
16	FRESATURA	MAZAK 6000 - 6800	SMUSSO 0,5 X 45°		-	DISEGNO	PROFILOMETRO	OGNI 10 PART	TABULATO PROFILOMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
17	FRESATURA	MAZAK 6000 - 6800	Ø 30 H8	0/+0,033		DISEGNO	ALESAMETRO1/1000	OGNI 2 PART.	SCHEDA AUTOCONTROLLO	OGNI CAMBIO TURN	NSQ011	PROCEDURA N°1
18	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 3		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
19	FRESATURA	MAZAK 6000 - 6800	RUGOSITA' 6		-	DISEGNO	RUGOSIMETRO	OGNI 10 PART	TABULATO RUGOSIMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1
20	FRESATURA	MAZAK 6000 - 6800	SMUSSO 20°	± 0°6'	-	DISEGNO	PROFILOMETRO	OGNI 10 PART	TABULATO PROFILOMETRO	SETTIMANALE	NSQ011	PROCEDURA N°1

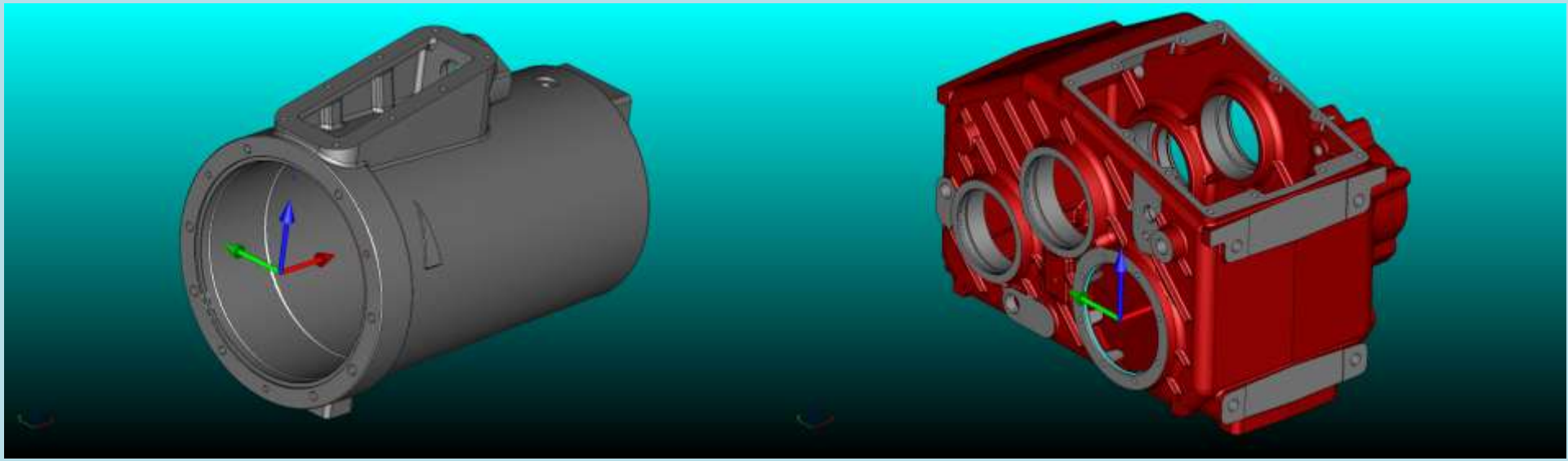
Below there are some pictures of our work

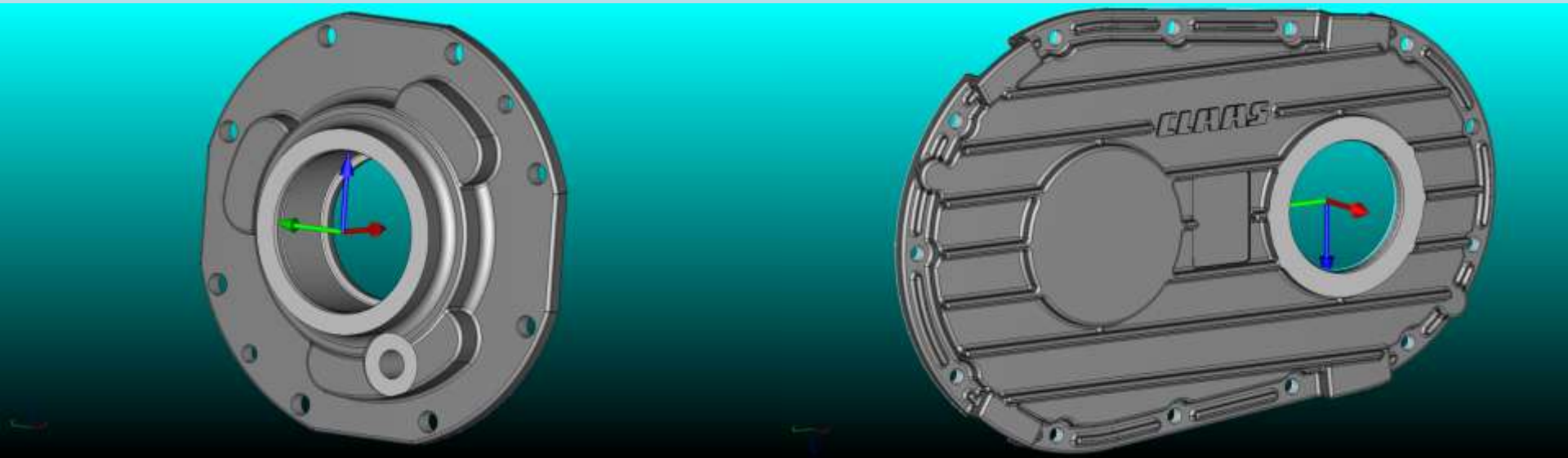








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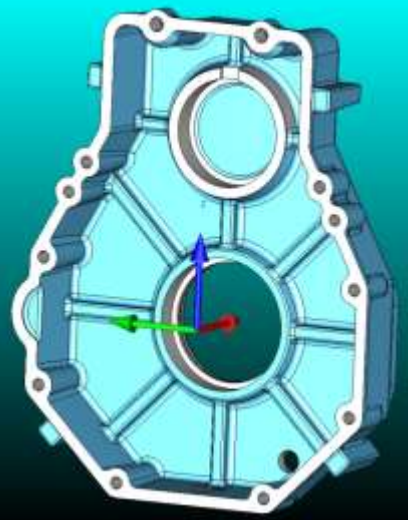

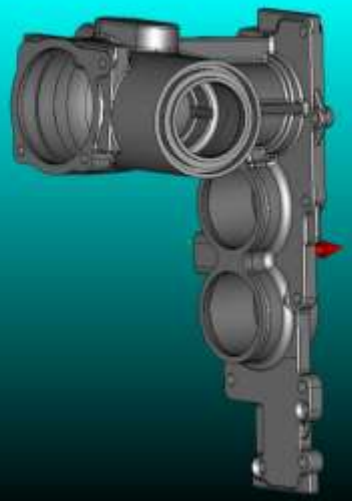

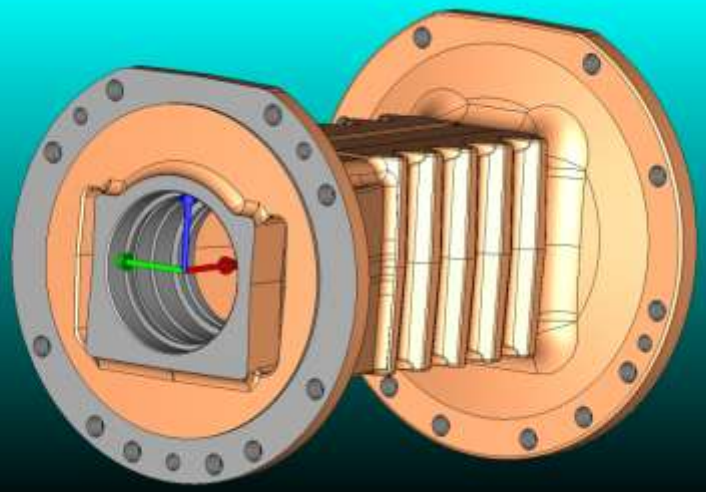

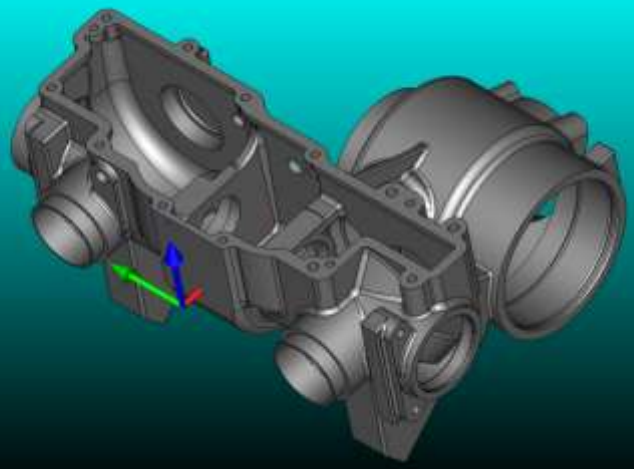

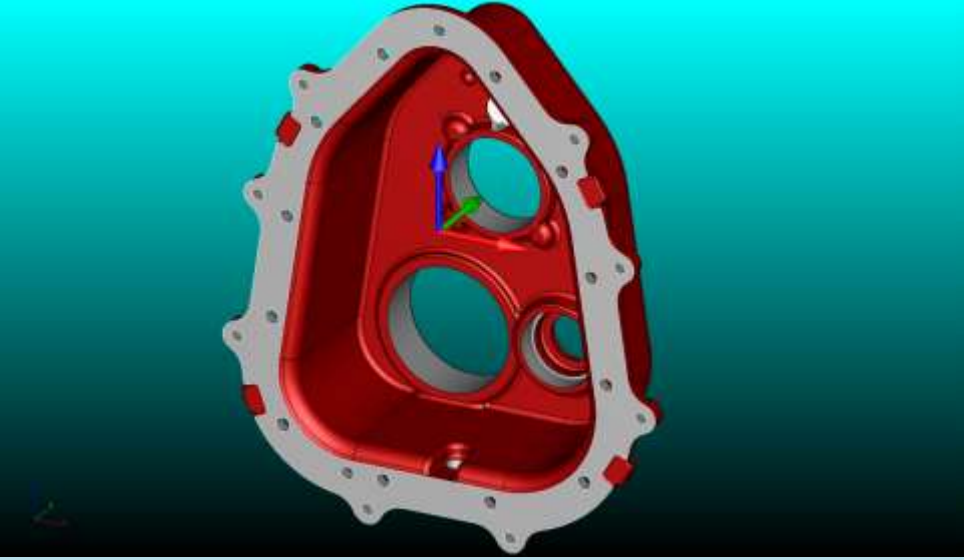

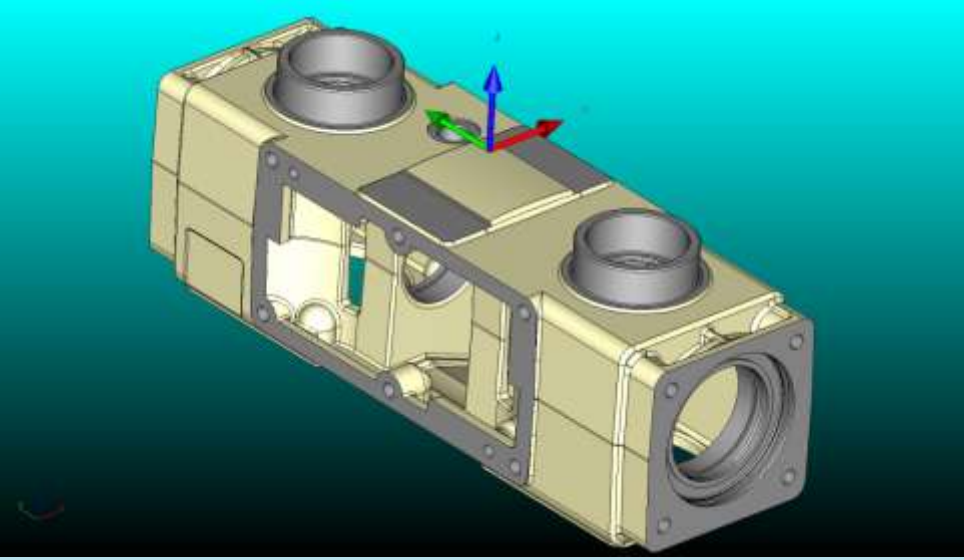

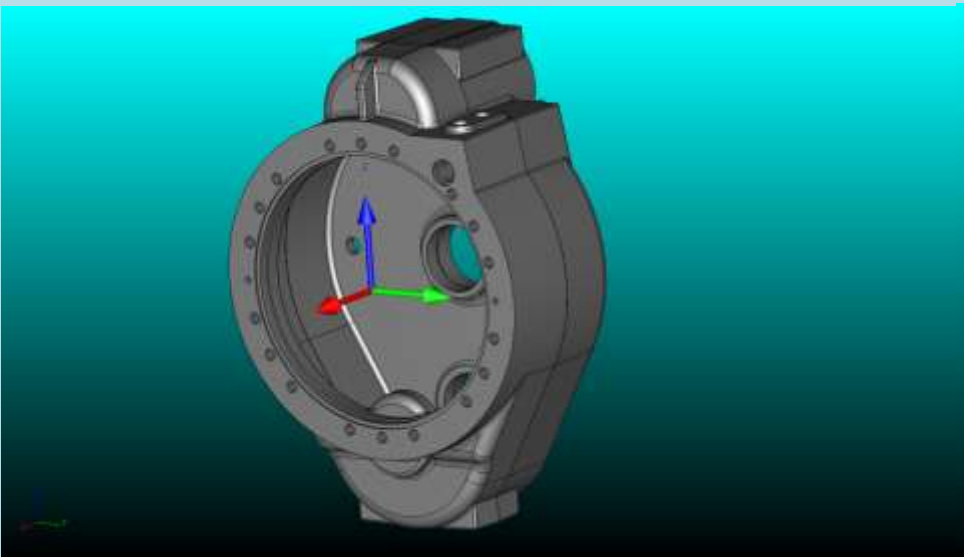

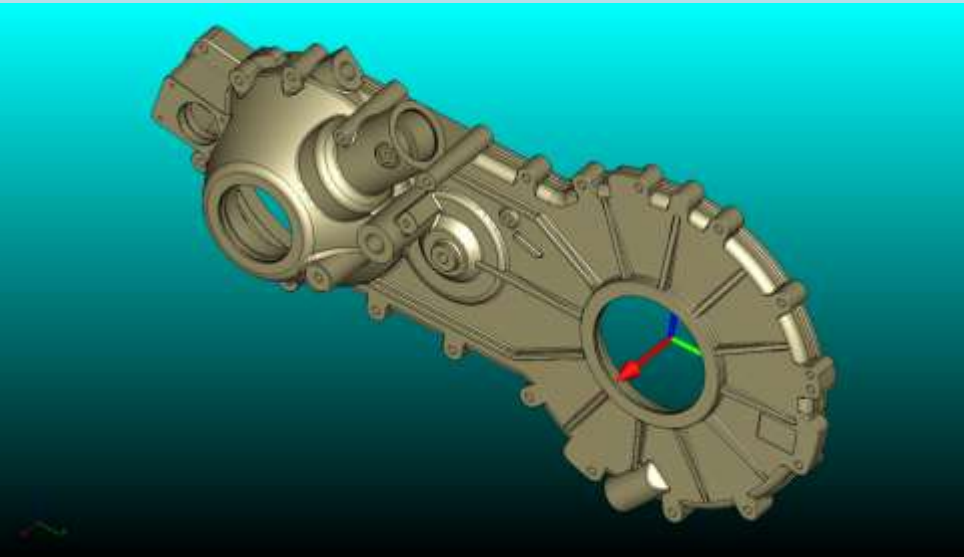

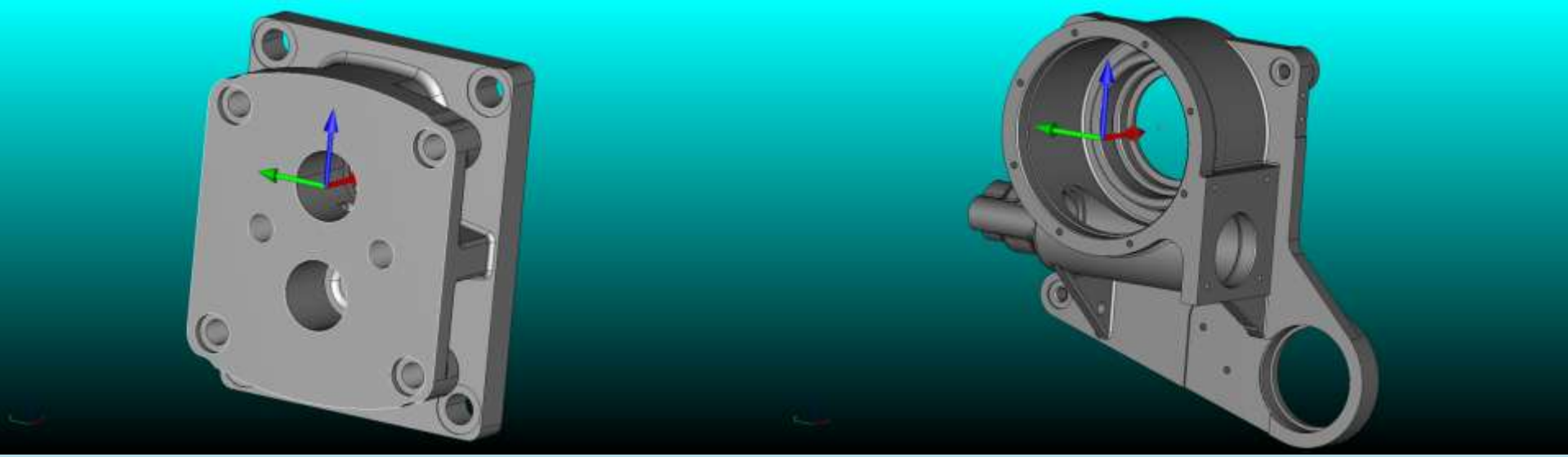

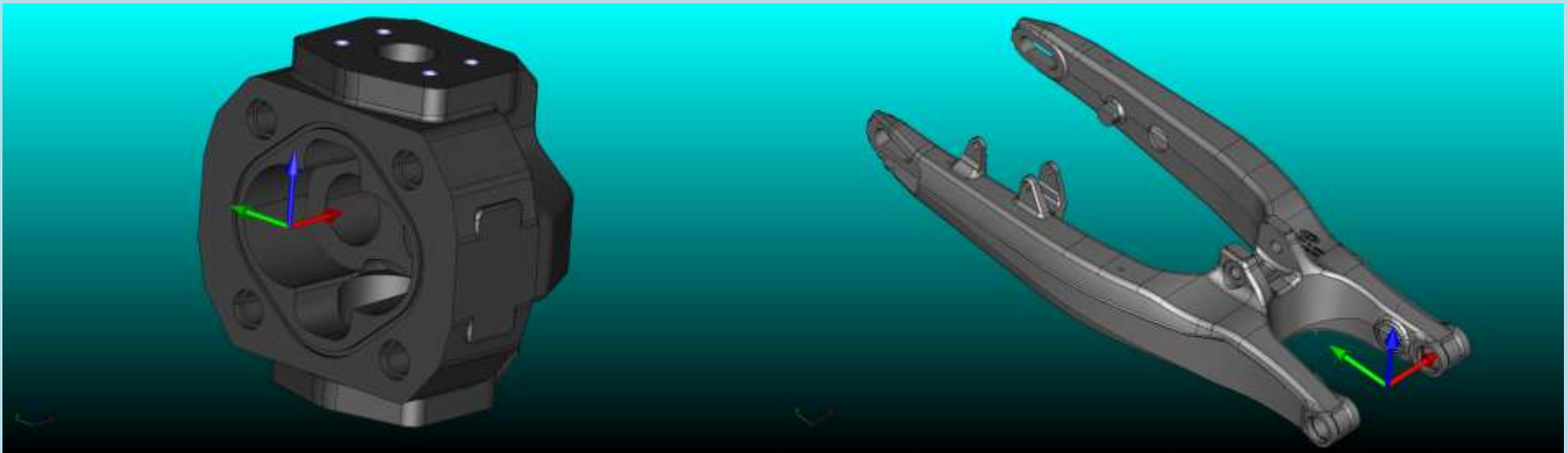

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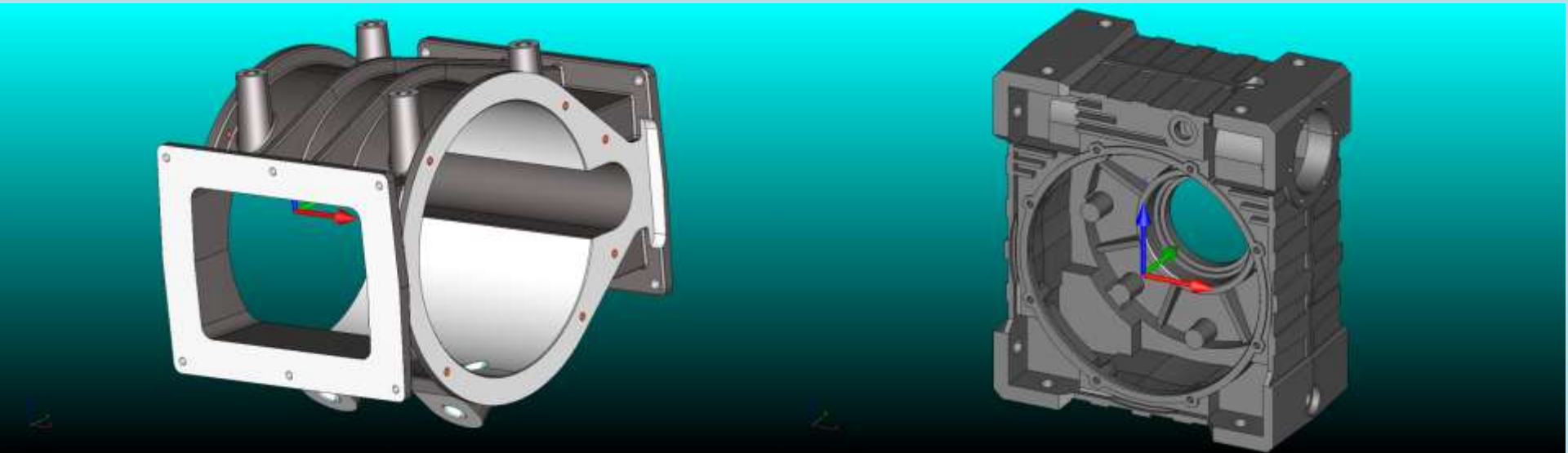

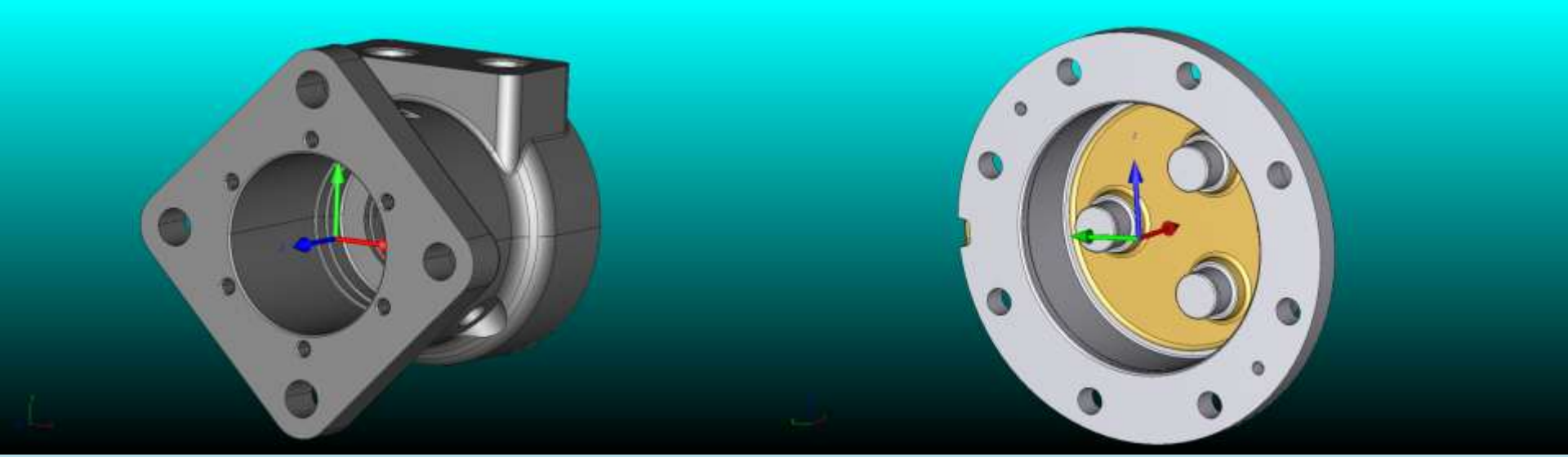

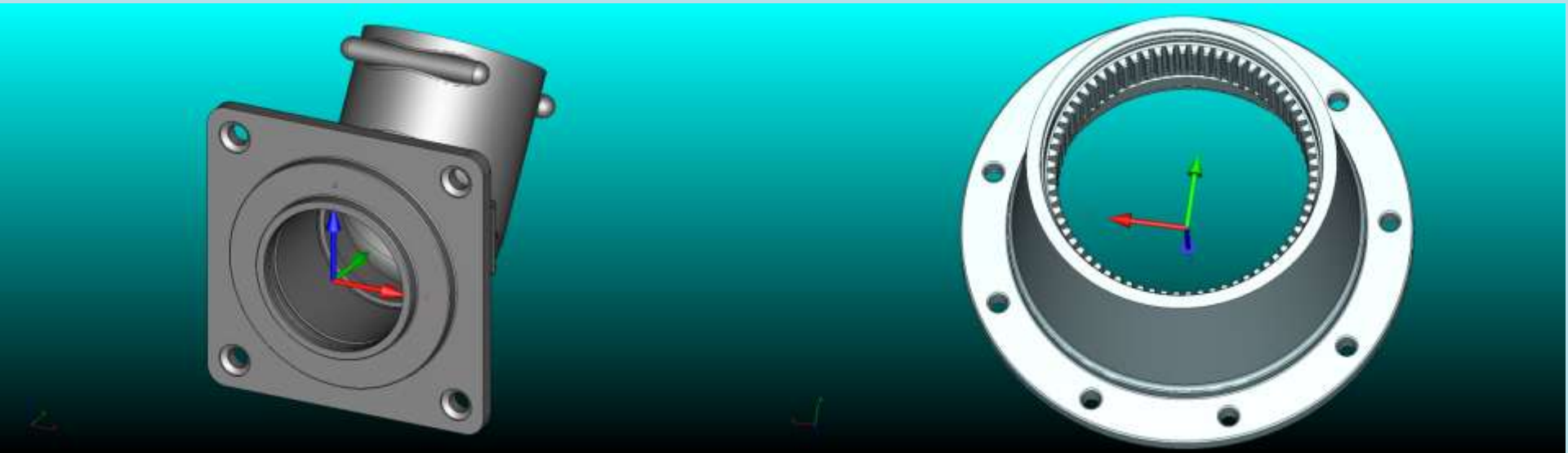

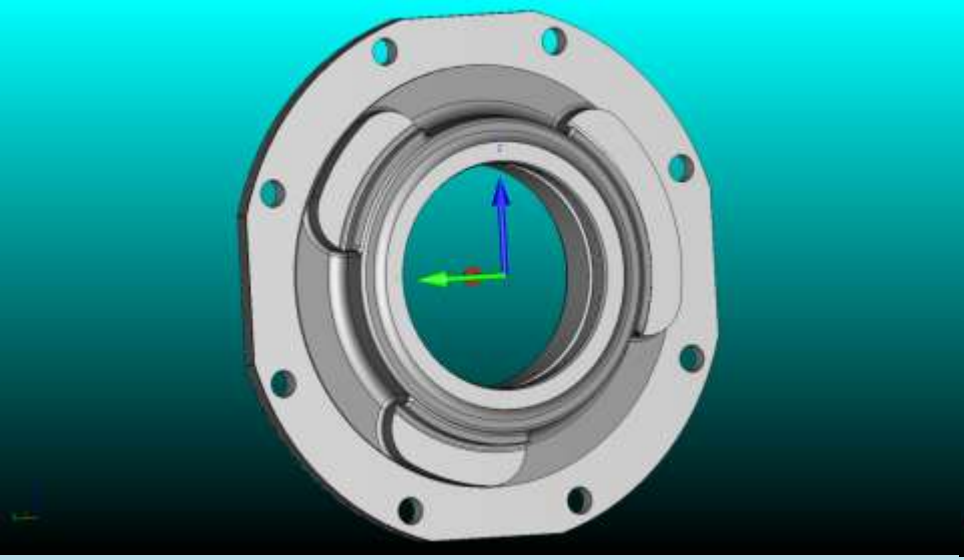

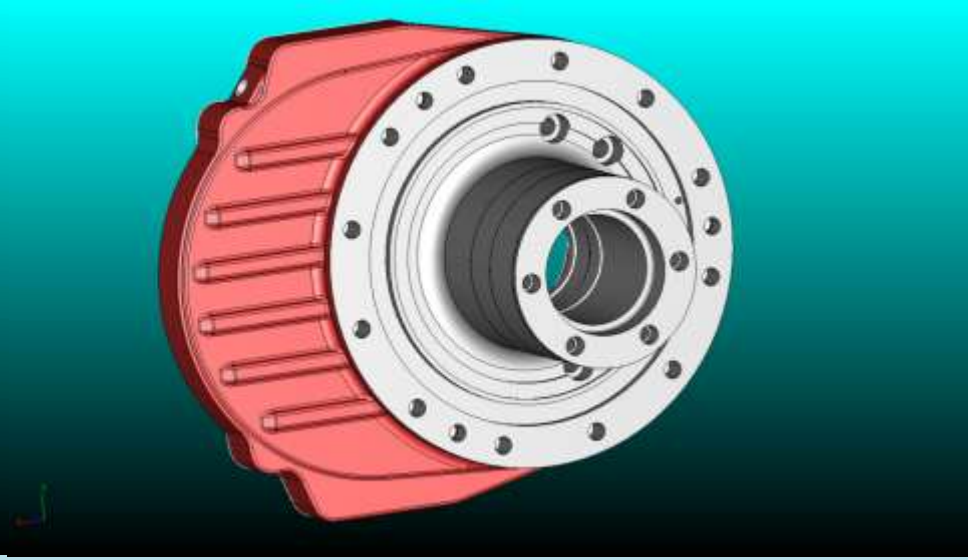

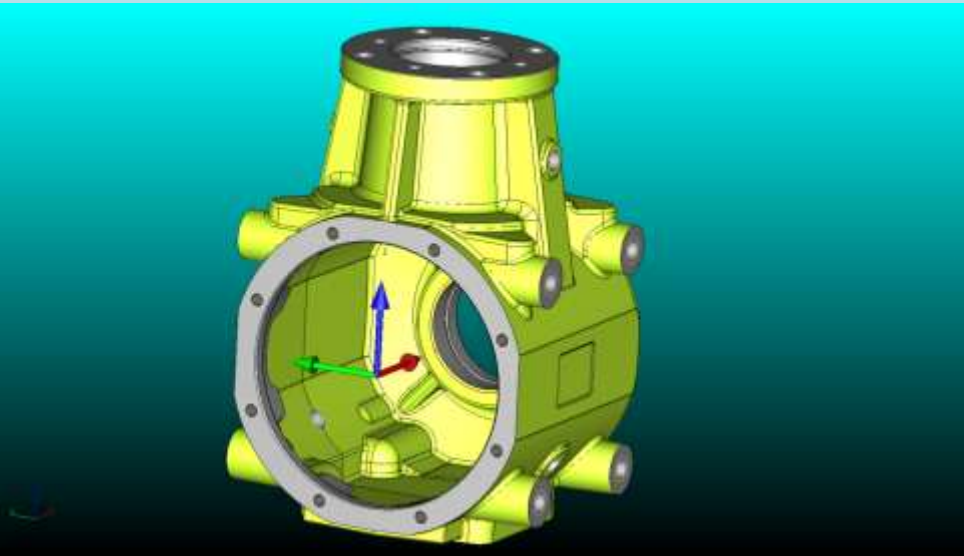

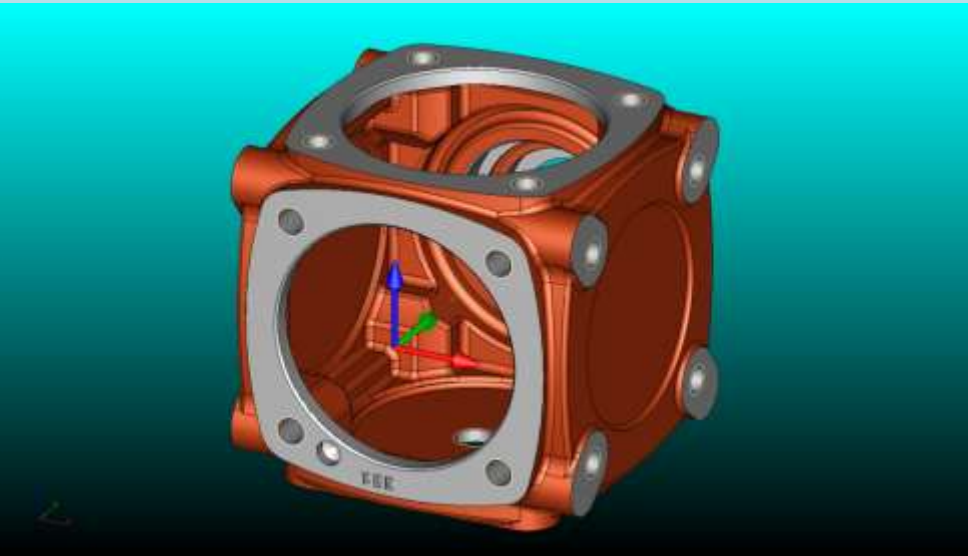

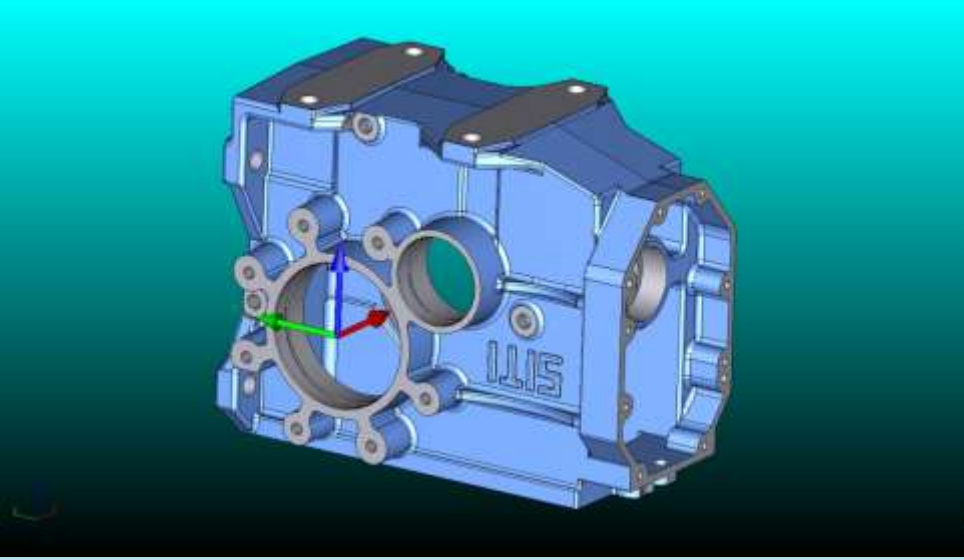

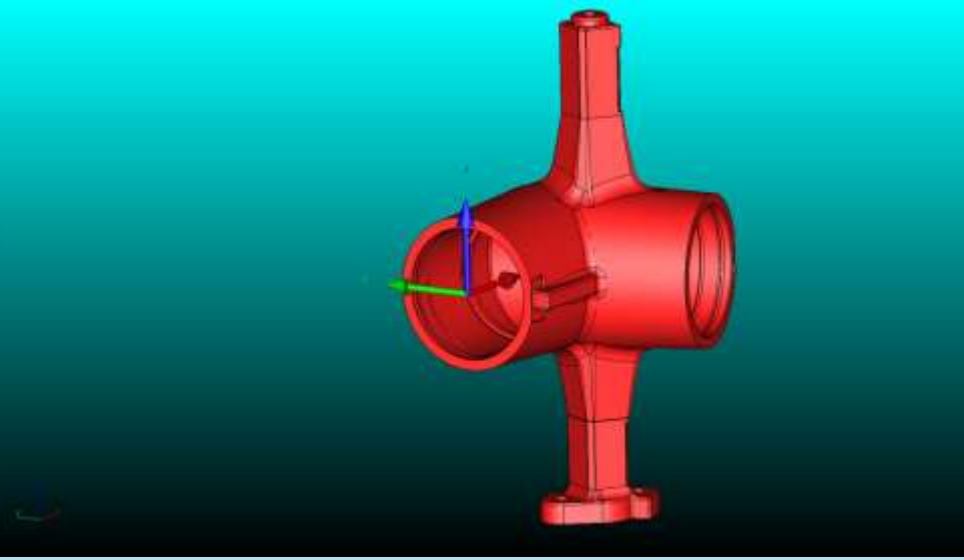

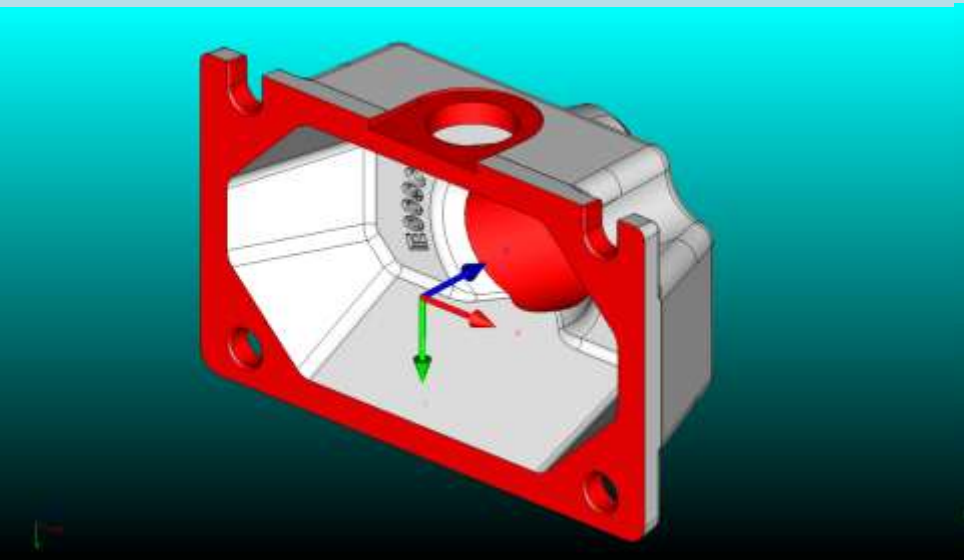

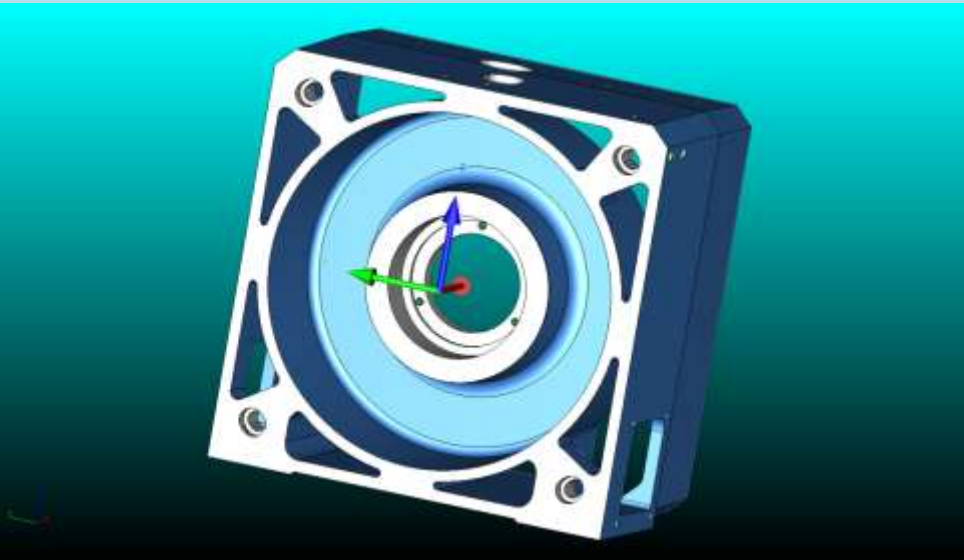

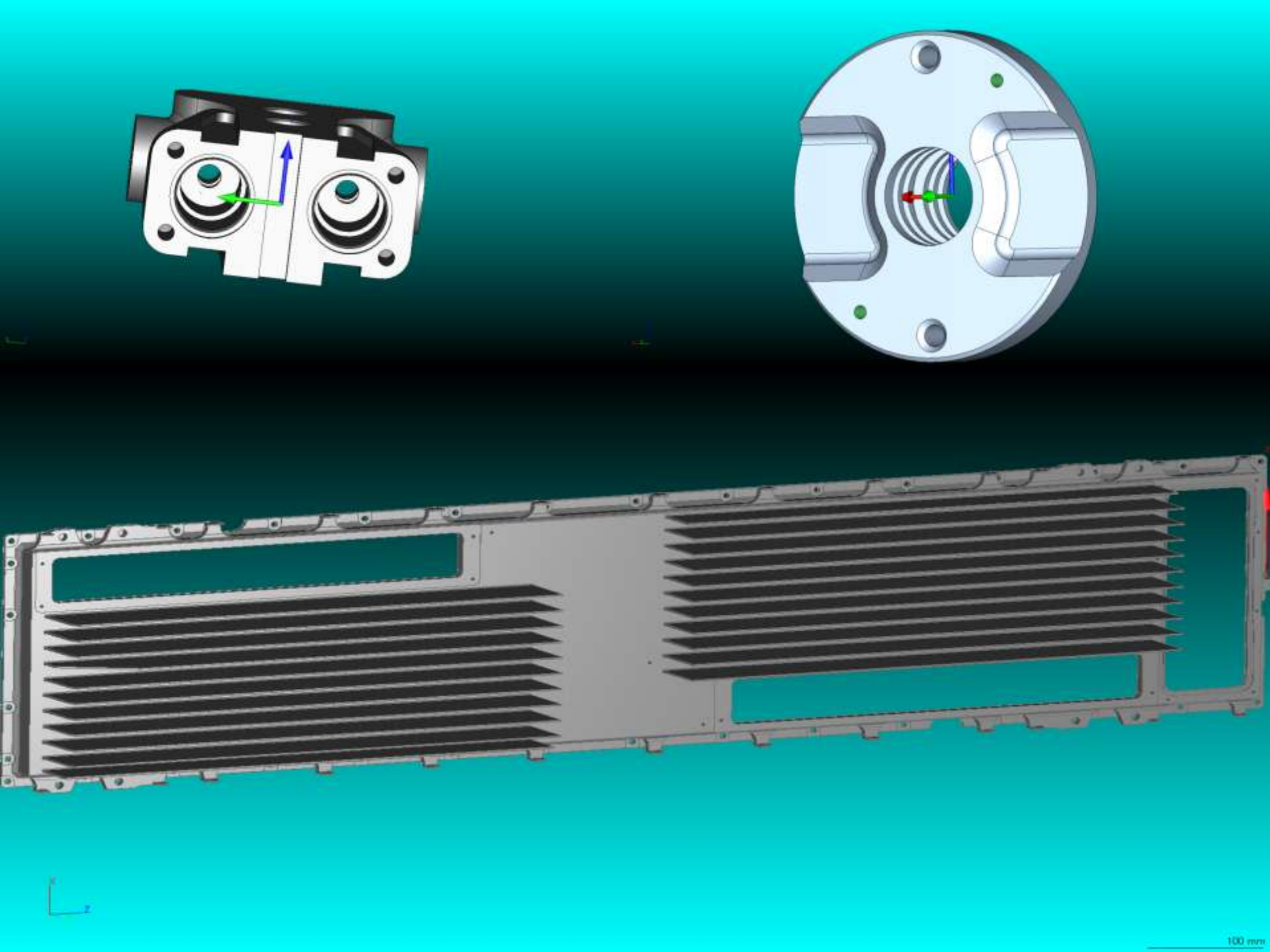
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References

During the last 40 years Minelli Srl has worked for some of the most important companies in the Italian market.

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BREVINI FLUID POWER

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Via Sardegna 21, San Matteo
Della Decima (BO)

Phone. +39 051 682 42 89

Fax. +39 051 682 63 99

WEB : www.minellisrl.com

Email : minelli@minellisrl.com