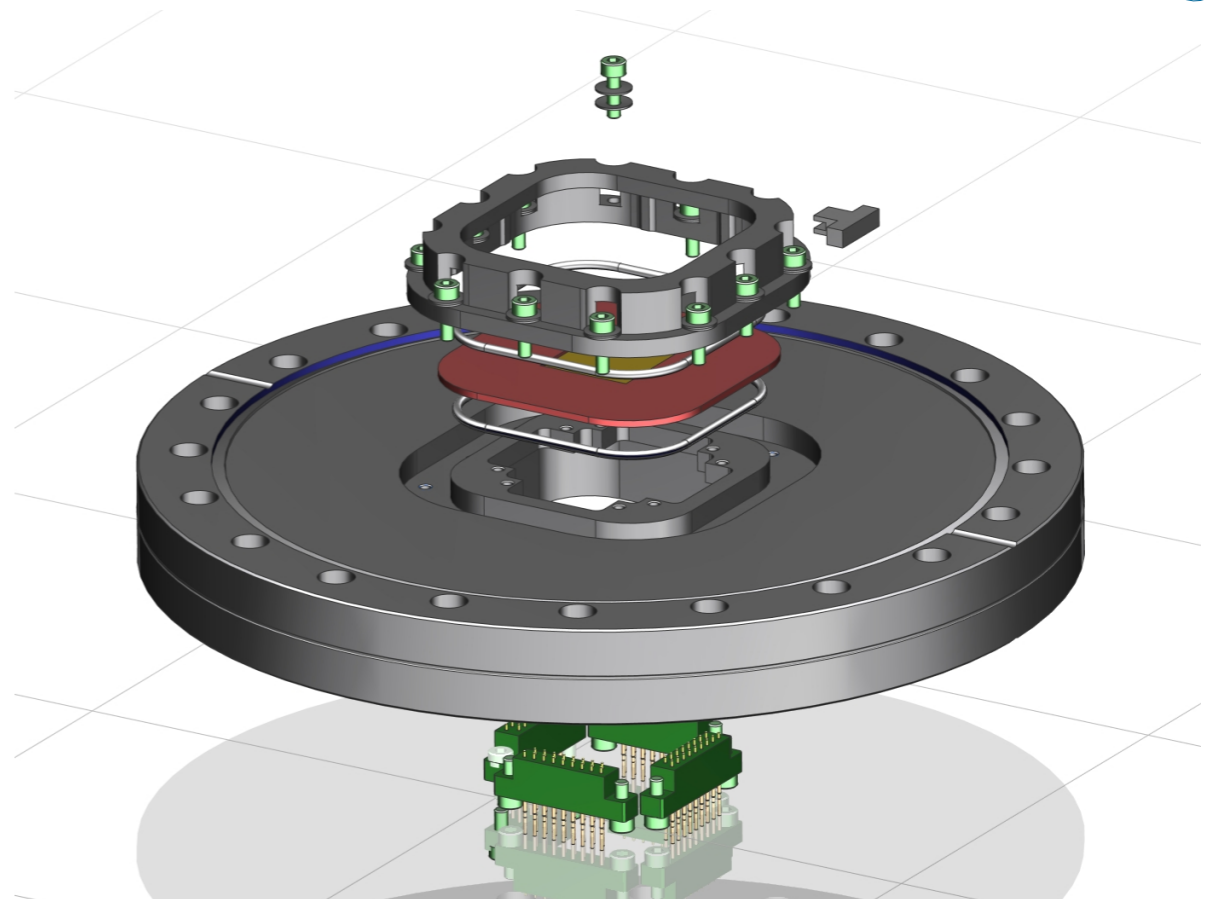
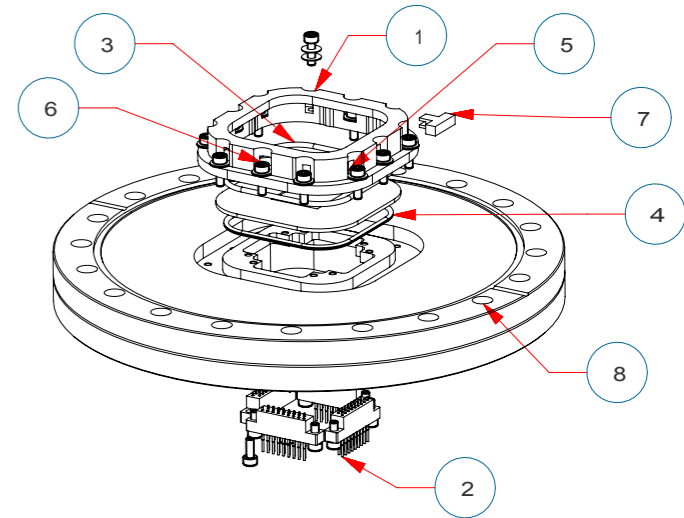
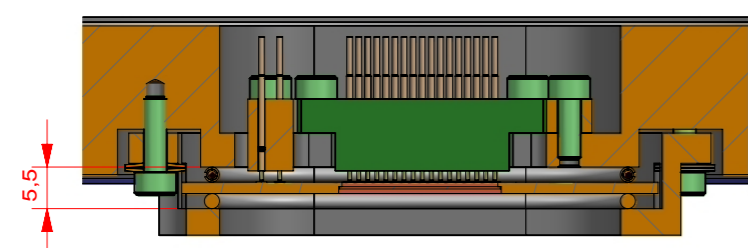


B (1:1)



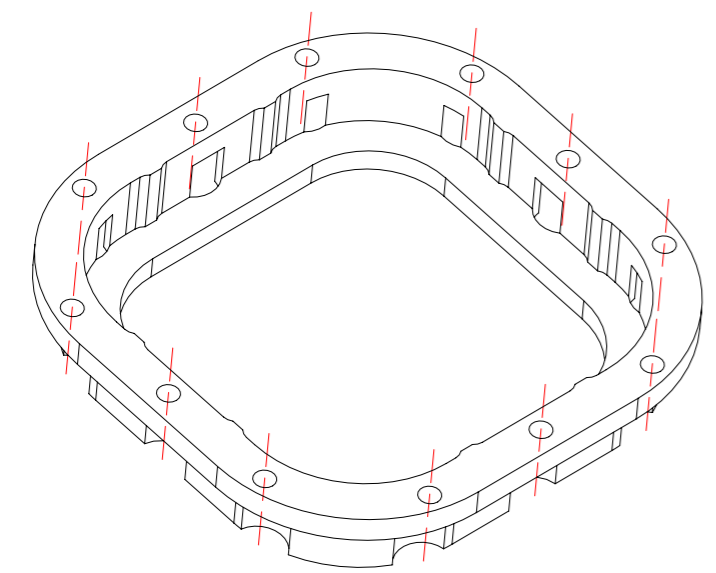
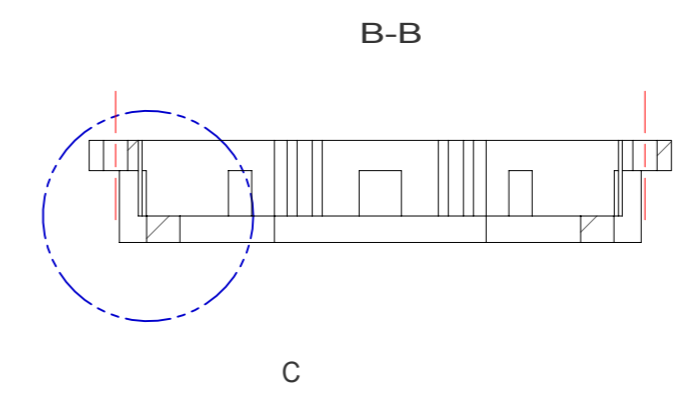
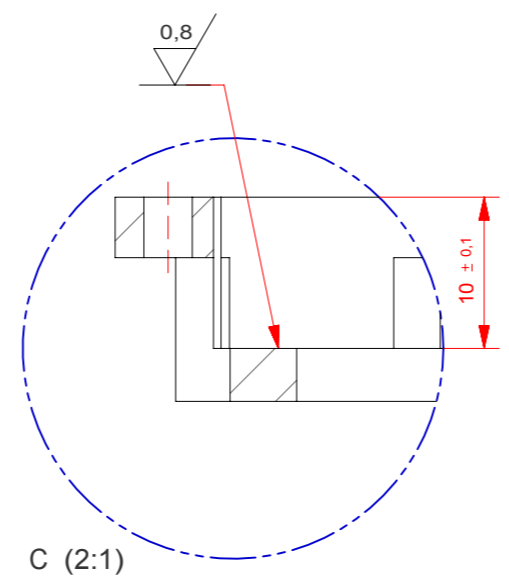
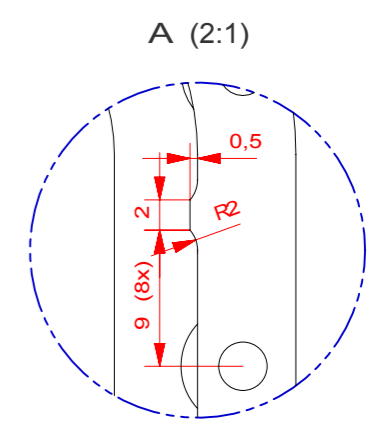
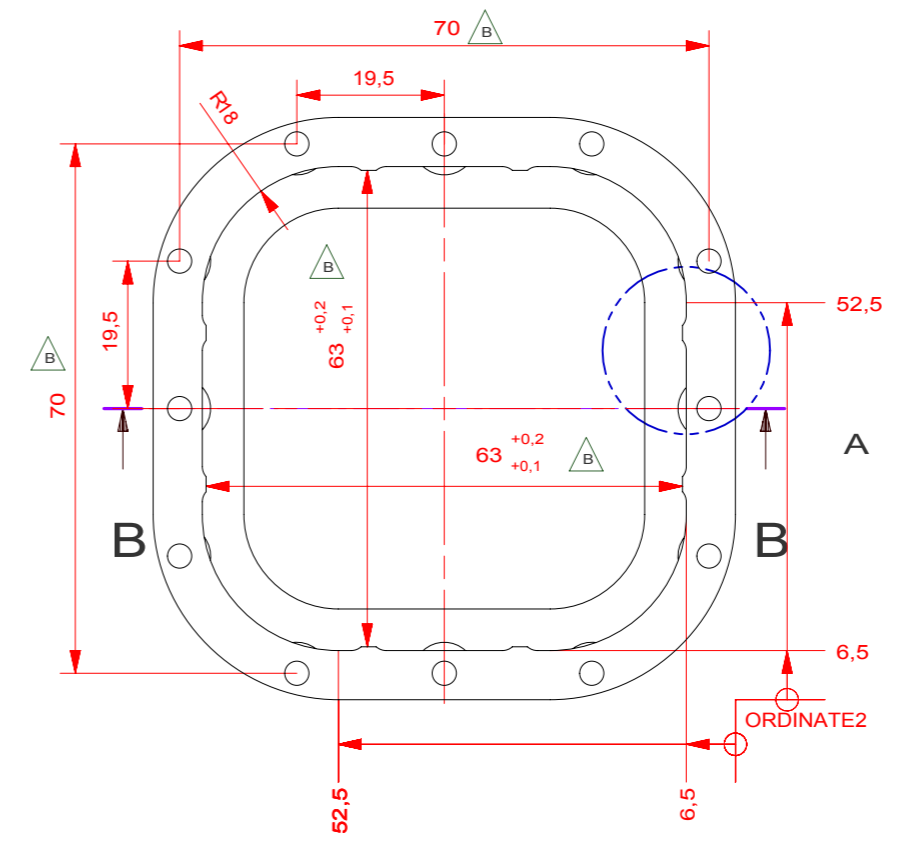
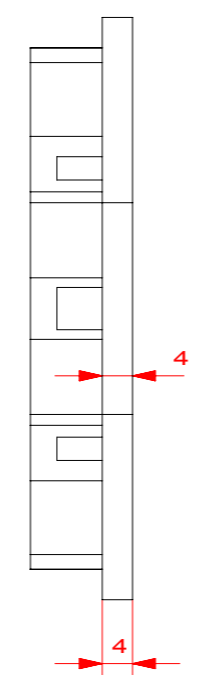
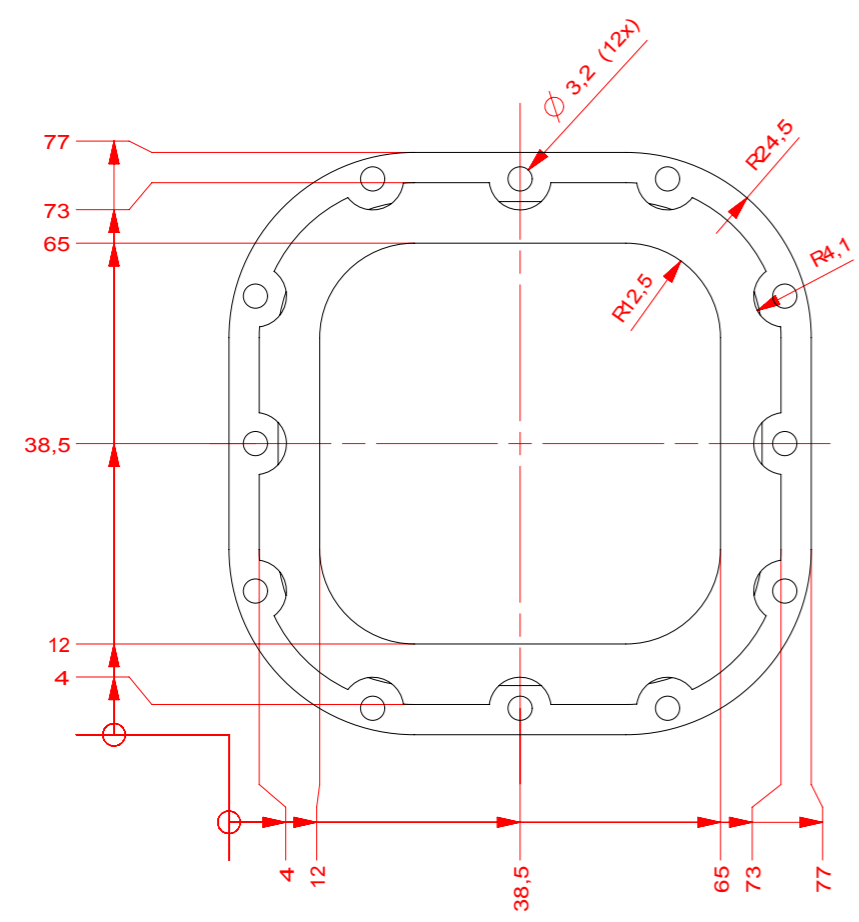
Pos.no.	QTY	File name	Name	Material	Remarks
8	1	3;1003;9100-11,CF-DN150	CF-DN150 custom	AISI_304L(1.4306)	-
7	1	3;1003;9100-09,MOUNT PIECE	Mount piece	DELFIN (POM)	Used for assembling
6	12	3;1003;9100-08,BOLT WITH DISCSPRINGS	M3x10 - 8x3,2x0,4	-	Adapted for use in UHV
5	1	3;1003;9100-06,SMALL PCB	Small PCB	-	-
4	1	3;1003;9100-05,GARLOCK RING	Garlock seal	Aluminum	HNRV130 dia.2.0/2.3
3	1	3;1003;9100-04,ALU RING	Aluminum wire	Aluminum	-
2	4	3;1003;9100-03,CONNECTOR	Connector	PEEK	-
1	1	3;1003;9100-02,PRESS PART	Press part	AISI_304(1.4301)	-

Shape- and dest.tol. acc.	Dim. tol. acc.	General Tolerances	Roughness acc.	mm	Scale	
NEN-ISO 1101	NEN-ISO 406	NEN-ISO 2768-1 m	NEN 3634		1:1,5	
F		Date:	Name:	Project: EXL Proto	A3	
E		Designed	2011	M.Lindemulder		Group: GSI Nustar
D		Drawn	28-02-2011	M.Lindemulder		Name:
C		Approved				Test setup small PCB
B	Design changed	28-02-2011			Drawing number:	
A	Design changed	16-02-2011			3;1003;9100_dwg	
Revision		Date			Sheet	
					1/1	

Projectcode:623001
 Werkorder: G1003
 Dimensions: LxBxH
 Material: -
 Mass [kg]: 4,65 kg



Linear dimensions	Nominal dims.	Tolerance
0,5-3	± 0,1	
3-6	± 0,1	
6-30	± 0,2	
30-120	± 0,3	
120-400	± 0,5	
400-1000	± 0,8	
1000-2000	± 1,2	
2000-4000	± 2	
[mm]	[mm]	
Broken edges	0,5-3 ± 0,2	3-6 ± 0,5
6- [mm]	± 1	
Comers	O-10 ± 1°	10-50 ± 0° 30'
	50-120 ± 0° 20'	120-400 ± 0° 10'
	400- [mm]	± 0° 5'



√ Ra 1,6 √ Ra 0,8

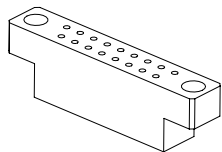
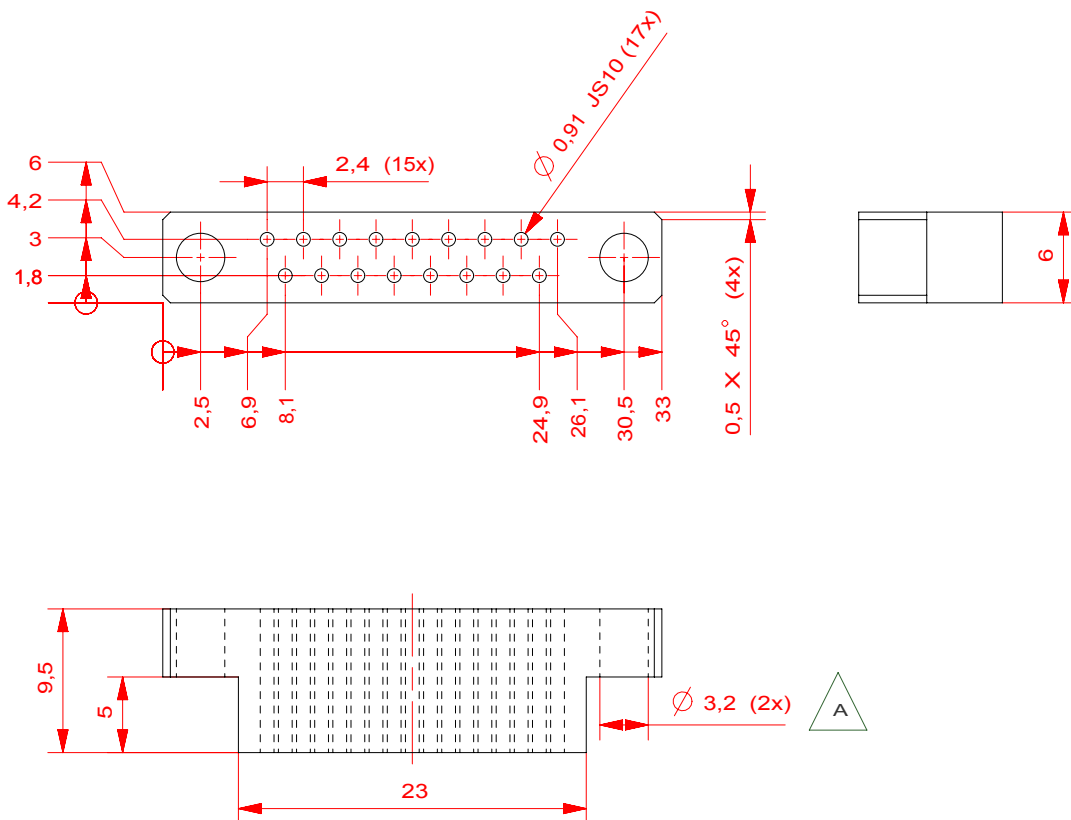
Projectcode: 623001
 Werkorder: G1003
 Dimensions: LxBxH
 Material: AISI_304(1.4301)
 Mass [kg]: kg

Number: 1x

Shape- and dest.tol. acc. NEN-ISO 1101		Dim. tol. acc. NEN-ISO 406		General Tolerances NEN-ISO 2768-1 m		Roughness acc. NEN 3634		mm		Scale
F				Date:	Name:	Project: EXL Proto				
E				Designed	2011	M.Lindemulder	Group: GSI NUSTAR			
D				Drawn	10-02-2011	M.Lindemulder	Name:			
C				Approved			Press part			
B	Holes changed	28-03-2011				Drawing number:				
A	model changed	28-02-2011				3;1003;9100-02_dwg				
Revision		Date								Sheet
										1/1



Linear dimensions	Nominal dims.	Tolerance
0,5-3	± 0,1	
3-6	± 0,1	
6-30	± 0,2	
30-120	± 0,3	
120-400	± 0,5	
400-1000	± 0,8	
1000-2000	± 1,2	
2000-4000	± 2	
Broken edges	[mm]	[mm]
0,5-3	± 0,2	
3-6	± 0,5	
6-	± 1	
[mm]	[mm]	
Comers		
0-10	± 1°	
10-50	± 0° 30'	
50-120	± 0° 20'	
120-400	± 0° 10'	
400-	± 0° 5'	



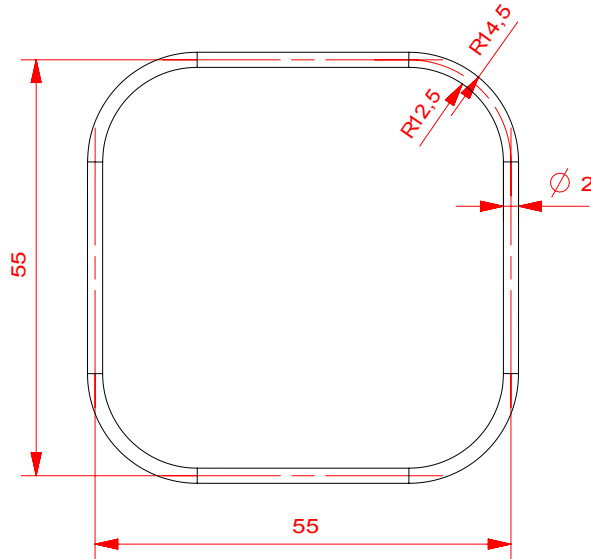
Projectcode: 623001
 Werkorder: G1003
 Dimensions: 33x9,5x6
 Material: PEEK
 Mass [kg]: kg

Number: 4x

made by GSI

Shape- and dest.tol. acc. NEN-ISO 1101		Dim. tol. acc. NEN-ISO 406		General Tolerances NEN-ISO 2768-1 m		Roughness acc. NEN 3634		mm				Scale 2:1	
F			Date:	Name:	Project: EXL Proto								
E		Designed	2011	M.Lindemulder	Group: GSI NUSTAR								
D		Drawn	10-02-2011	M.Lindemulder	Name:								
C		Cont		-	Connector								
B		Kernfysisch Versneller Instituut Zernikelaan 25 9747AA Groningen			Drawing number:							Sheet	
A	holes changed				10-02-2011	3;1003;9100-03_dwg							1/1
Revision		Date											

400-	± 0° 5'
120-400	± 0° 10'
50-120	± 0° 20'
10-50	± 0° 30'
O-10	± 1°
I-min. cornerside	
Corners	
tolerance	
6-	± 1
3-6	± 0,5
0,5-3	± 0,2
Broken edges	
2000-4000	± 2
1000-2000	± 1,2
400-1000	± 0,8
120-400	± 0,5
30-120	± 0,3
6-30	± 0,2
3-6	± 0,1
0,5-3	± 0,1
Nominal dims.	
Tolerance	
NEN-ISO 2768-1m	
Linear dimensions	

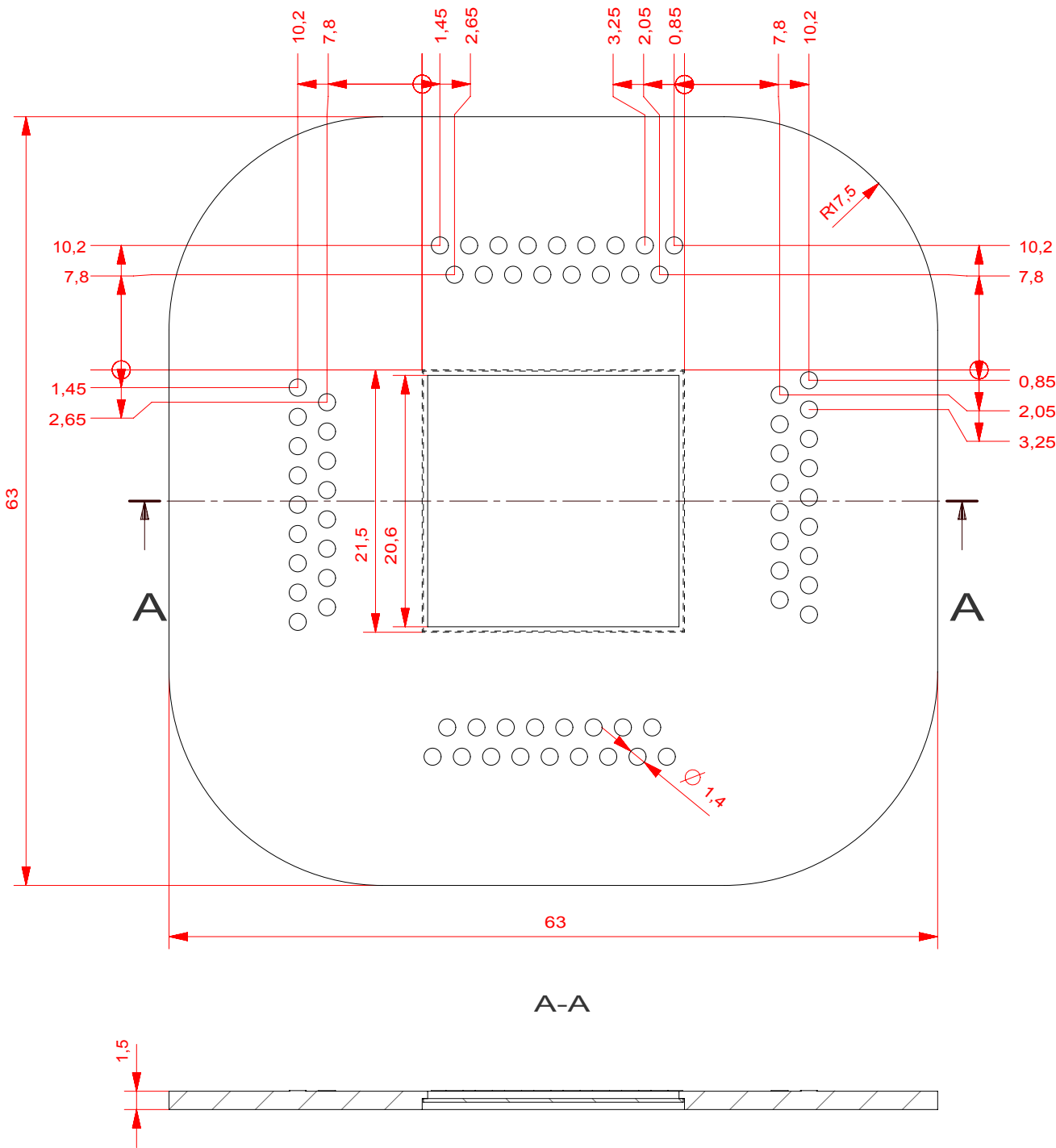


Projectcode: 623001
 Werkorder: G1003
 Dimensions: LxBxH
 Material: -
 Mass [kg]: kg

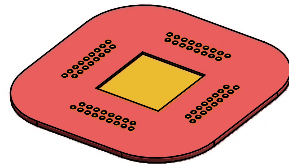
Number: 1x

Shape- and dest.tol. acc. NEN-ISO 1101		Dim. tol. acc. NEN-ISO 406		General Tolerances NEN-ISO 2768-1 m		Roughness acc. NEN 3634	mm		Scale 1:1
F			Date:	Name:	Project: EXL Proto				
E		Designed	2010	M.Lindemulder	Group: GSI NUSTAR				
D		Drawn	28-02-2010	M.Lindemulder	Name:				
C		Cont		-	Aluminum wire				
B		Kernfysisch Versneller Instituut Zernikelaan 25 9747AA Groningen			Drawing number:				
A					3;1003;9100-04_dwg				
Revision		Date						Sheet 1/1	

400-	400-400	120-400	50-120	10-50	O-10	I-min. cornerside	Corners		
± 0° 5'	± 0° 10'	± 0° 20'	± 0° 30'	± 0° 30'	± 1°	tolerance		[mm]	[mm]
								6-	6-
								± 1	± 1
								3-6	3-6
								± 0.5	± 0.5
								0.5-3	0.5-3
								± 0.2	± 0.2
								Broken	Broken
								edges	edges
								[mm]	[mm]
								2000-4000	2000-4000
								± 2	± 2
								1000-2000	1000-2000
								± 1.2	± 1.2
								400-1000	400-1000
								± 0.8	± 0.8
								120-400	120-400
								± 0.5	± 0.5
								30-120	30-120
								± 0.3	± 0.3
								6-30	6-30
								± 0.2	± 0.2
								3-6	3-6
								± 0.1	± 0.1
								0.5-3	0.5-3
								± 0.1	± 0.1

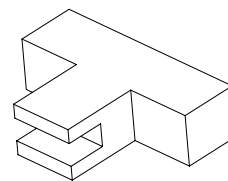
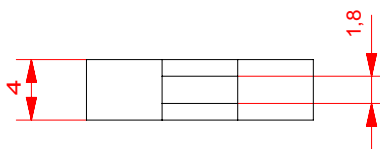
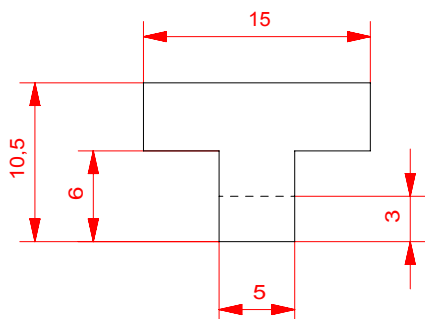


Projectcode: 623001
 Werkorder: G1003
 Dimensions: 63x63
 Material: -
 Mass [kg]: kg



Shape- and dest.tol. acc. NEN-ISO 1101		Dim. tol. acc. NEN-ISO 406		General Tolerances NEN-ISO 2768-1 m		Roughness acc. NEN 3634	mm		Scale 2:1
F		Date:	2011	Name:	M.Lindemulder	Project:	EXL Proto	A4	
E		Designed				Group:	GSi NUSTAR		
D		Drawn	10-02-2011		M.Lindemulder	Name:	Small PCB		
C		Cont			-	Drawing number: 3;1003;9100-06_dwg			Sheet 1/1
B		 Kernfysisch Versneller Instituut Zernikelaan 25 9747AA Groningen							
A									
Revision	Date								

Linear dimensions	Nominal dims.	Tolerance
0.5-3	± 0.1	
3-6	± 0.1	
6-30	± 0.2	
30-120	± 0.3	
120-400	± 0.5	
400-1000	± 0.8	
1000-2000	± 1.2	
2000-4000	± 2	
Broken edges	0.5-3	± 0.2
3-6	± 0.5	
6-	± 1	
Corners	I-min. cornerside tolerance	
0-10	± 1°	
10-50	± 0° 30'	
50-120	± 0° 20'	
120-400	± 0° 10'	
400-	± 0° 5'	

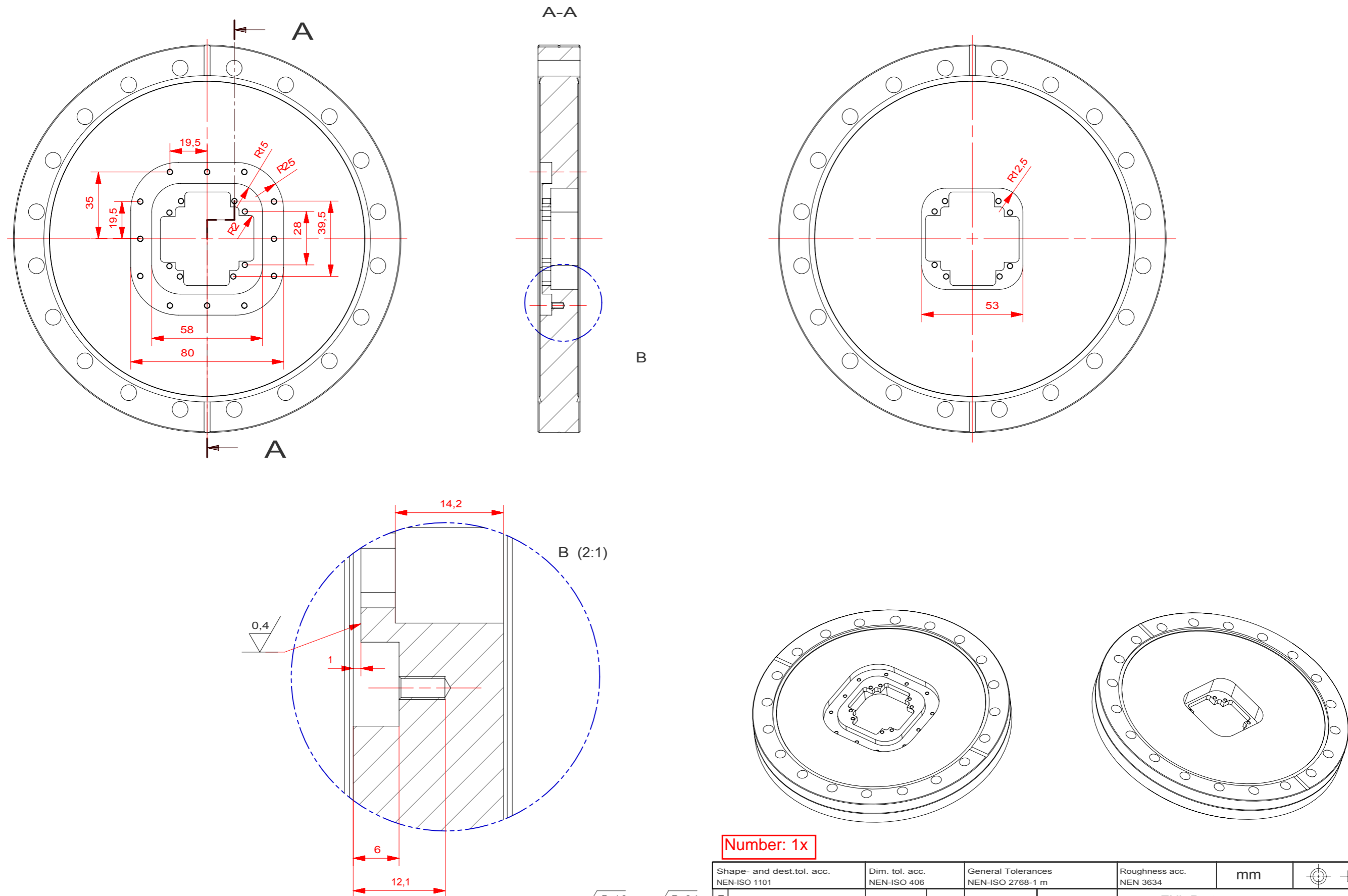


Projectcode: 623001
 Werkorder: G1003
 Dimensions: 34x10x4
 Material: DELRIN (POM)
 Mass [kg]: kg

Number: 1x

Shape- and dest.tol. acc. NEN-ISO 1101		Dim. tol. acc. NEN-ISO 406		General Tolerances NEN-ISO 2768-1 m		Roughness acc. NEN 3634		mm		Scale 2:1
F			Date:	Name:	Project: EXL Proto					
E		Designed	2011	M.Lindemulder	Group: GSI NUSTAR					
D		Drawn	28-02-2011	M.Lindemulder	Name:					
C		Cont		-	Mount piece					
B		 Kernfysisch Versneller Instituut Zernikelaan 25 9747AA Groningen			Drawing number:					Sheet 1/1
A					3;1003;9100-09_dwg					
Revision		Date								


400-	± 0° 5'
120-400	± 0° 10'
50-120	± 0° 20'
10-50	± 0° 30'
O-10	± 1°
I-min. cornerside	
Corners	
I-min. tolerance	
6-	± 1
3-6	± 0,5
0,5-3	± 0,2
Broken edges	
2000-4000	± 2
1000-2000	± 1,2
400-1000	± 0,8
120-400	± 0,3
30-120	± 0,2
6-30	± 0,1
3-6	± 0,1
0,5-3	± 0,1
Nominal dims.	
Tolerance	
NEN-ISO 2768-1m	
Linear dimensions	



Number: 1x

√ Ra 1,6 √ Ra 0,4

Projectcode: 623001
 Werkorder: G1003
 Dimensions:
 Material: AISI_304L(1.4306)
 Mass [kg]: 4,5 kg

Shape- and dest.tol. acc. NEN-ISO 1101	Dim. tol. acc. NEN-ISO 406	General Tolerances NEN-ISO 2768-1 m	Roughness acc. NEN 3634	mm	Scale
F		Date:	Name:	Project: EXL Proto	1:2
E		Designed	<input checked="" type="checkbox"/> M.Lindemulder	Group: GSI NUSTAR	A3
D		Drawn	28-02-2011 M.Lindemulder	Name:	
C		Approved		CF-DN150 custom	
B				Drawing number:	
A				3;1003;9100-11_dwg	
Revision	Date	 Kernfysisch Versneller Instituut Zernikelaan 25 9747AA Groningen		Sheet	1/1

Linear dimensions	Nominal dims.	Tolerance
0,5-3	± 0,1	
3-6	± 0,1	
6-30	± 0,2	
30-120	± 0,3	
120-400	± 0,5	
400-1000	± 0,8	
1000-2000	± 1,2	
2000-4000	± 2	
Broken edges	[mm]	[mm]
0,5-3	± 0,2	
3-6	± 0,5	
6-	± 1	
Comers	[mm]	[mm]
I-min. comerside	± 1°	
10-50	± 0° 30'	
50-120	± 0° 20'	
120-400	± 0° 10'	
400-	± 0° 5'	

Customer

Customer Reference

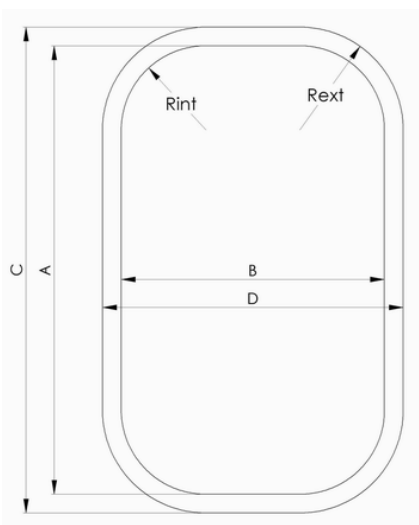
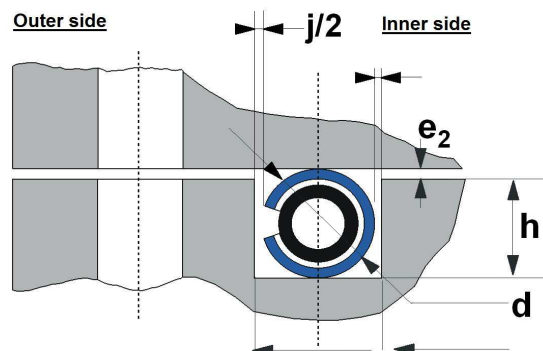
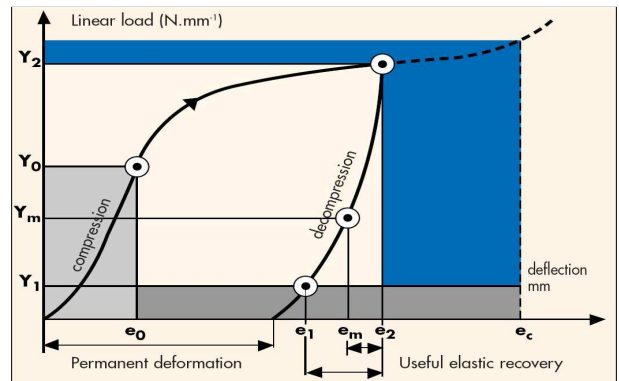
HNRV 130 $\varnothing t = 2.0/2.3$
Outer Lining Material Aluminium
Rectangular design 53.0 mm x 53.0 mm, Radius of Curvature 12.5 mm

Conditions

Field of activity	Vacuum
Media to seal	Vacuum
Precise if other ----->	
Working Pressure (0 for Vacuum) (bar)	0
Working or baking Temperature (°C)	150
Pressure Direction	Internal

Seal

Design	Rectangular
Type	HN 130
Cross Sectional diameter (mm)	2.0/2.3
Outer Lining	Aluminium
Inner Lining	-
Spring	Nimonic 90
Sealing Level of the Gasket	Helium
Working point Y2 (N/mm)	80
Seal inner / outer Length (mm)	53.0 / 57.0
Seal inner / outer Width (mm)	53.0 / 57.0
Inner / outer Radius of Curvature (mm)	12.5 / 14.5

**Assembly**

Groove inner Length A (mm)	51.90 (max)
Groove inner Width B (mm)	51.90 (max)
Groove inner Radius Rint (mm)	11.95 (max)
Groove outer Length C (mm)	57.50 (0/+0.1)
Groove outer Width D (mm)	57.50 (0/+0.1)
Groove outer Radius Rext (mm)	14.75 (0/+0.05)
Groove Depth h (mm)	2.0 (± 0.05)
Compression value to get Metal to Metal Contact e2 (mm)	0.30
Seal OD Clearance (or ID Clearance for external Pressure) j (mm)	0.5
Durété bride (minimale) HV	65
Etat de surface (obtenu selon la Fiche Technique Garlock 921-45) Ra (μm)	0.2 - 0.8 (optimum 0.6)

Note : Your Specific application should not be undertaken without independent study & evaluation for suitability. While the utmost care has been used in compiling this software, we assume no responsibility for errors. Specifications subject to change without notice. Copyright Garlock 2004.