

1. AFTER UPSETTING THOROUGHLY GRIND RIVET HEADS FLUSH WITH SURFACE FROM BOTH SIDES.
2. NONFLATNESS OF SURFACE A SHOULD NOT EXCEED 0.2 MM.
3. PAINT SURFACE A WITH WHITE ENAMEL ПФ-115 GOST 6465-76. PAINT ON SURFACE B IS NOT TOLERABLE.
4. PAINT CROSS-HATCHED CONTOUR WITH BLACK ENAMEL ПФ-115 GOST 6465-76.
5. PAINTED CONTOUR OUTER LINE SHOULD BE DISTINCT.
6. PROJECTION OF DISC (REF NO TG-55-135-5203-22) BEYOND CONTOUR OF GEAR (REF. NO TG-55-135-5203-23) IS NOT TOLERABLE.
7. COAT GRINDED SURFACES OF GEAR AND RIVETS WITH VARNISH КО-815 GOST 11066-74.

VETTED
22 JAN 2008
JVM/STD-CELL

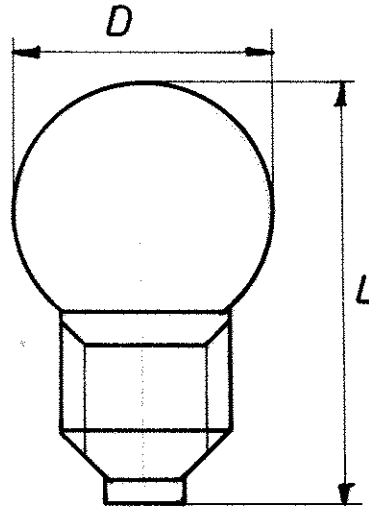
Handwritten signature and initials.

THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
सामान्य सहिष्णुता GENERAL TOLERANCE						
रेखिक परिमाण LINEAR DIMENSION						
0 - 6	± 0.1					
6 - 30	± 0.2					
30 - 120	± 0.3					
120 - 315	± 0.5					
315 - 1000	± 0.8					
1000 - 2000	± 1.2					
कोणिक परिमाण ANGULAR DIMENSION						
1 - 10	± 1°					
10 - 50	± 30'					
50 - 100	± 20'					
> 100	± 10'					
मापक 'म्यू.एम.' में VALUE IN 'μm'						
~	> 25					
▽	8 - 25					
▽▽	1.6 - 8					
▽▽▽	0.025 - 1.6					
▽▽▽▽	< 0.025					
GEAR ASSEMBLY						
AZIMUTH INDICATOR HO-5203-66						
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH				कार्यालय OFFICE	मापमान SCALE	आरेखित DRAWN
W.M.T.					1:1	-10-87
FIRST ANGLE PROJECTION					जाँचा CHECKED	15-10
मूलमाप व अन्वायोजन NOMINAL SIZE & FIT				विचलन DEVIATION	अनुमोदित APPROVED	
TG-55-135-5203-50					द्वारा बदला REPLACED BY	
TG-55-135-5203-50					हेतु बदला REPLACED FOR	
TG-55-135-5203-50					आरेखण क्र. DRAWING NO.	

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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C2/238



THREAD E10 GOST 6042-71

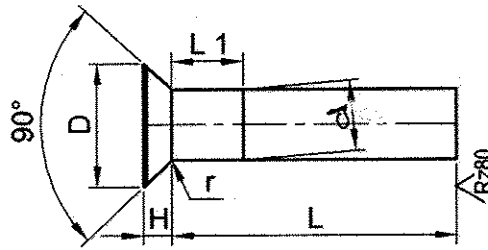
VETTED
22 JAN 2009
JWM/STD-CELL

TYPE OF BULB	D	L	TYPE OF METAL BODY
	mm. NOT MORE THAN		
MH 26-0.12-1	12	24	E-10-13

RATED				MAXIMUM			AVERAGE BURNING TIME IN HOURS AT RATED VOLTAGE	
VOLTAGE V	CURRENT A	LIMINUM US FLUX 1m FOR BULB WITH STATE QUALITY MARK.	DO-FOR FIRST CATEGO- RY BULB, 1 m.	CURRENT NOT MORE THAN.	LIMINUM US FLUX 1m FOR BULB WITH STATE QUALITY MARK	DO-FOR FIRST CATEGO- RY BULB	FOR BULB WITH STATE QUALITY MARK	FOR FIRST CATEGORY.
26	0.12	12	12.0	0.15	10.0	10.0	500	400

THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-2204

2		संख्या NO. OFF.		विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अध्यक्षित REMARKS	
		सामान्य सहिष्णुता GENERAL TOLERANCE				⊕	NOTE ADDENDUM. 2-8-V	3-8-11		
		रेखिक परिमाण LINEAR DIMENSION								
		0 - 6 ± 0.1								
		6 - 30 ± 0.2								
		30 - 120 ± 0.3								
		120 - 315 ± 0.5								
		315 - 1000 ± 0.8								
		1000 - 2000 ± 1.2								
		कोणिक परिमाण ANGULAR DIMENSION		संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. ORG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME	
		1 - 10 ± 10'								
		10 - 50 ± 30'								
		50 - 100 ± 20'								
		> 100 ± 10'								
		मापक म्य एम. में VALUE IN μm								
		⊕ > 25								
		⊖ 8 - 25								
		⊖ 16 - 8								
		⊖ 0.025 - 16								
		⊖ 0.025								
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विवचन DEVIATION	FIRST ANGLE PROJECTION		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH			कार्यालय OFFICE W.M.I.	मापमान SCALE	आरेखित DRAWN -10-87 जांचा CHECKED अनुमोदित APPROVED	द्वारा बदला BY BTA-24
							कार्यालय OFFICE	हनु बदला REPLACED FOR	आरेखण क्र. DRAWING NO. MPF/TG-BMP-II/2204	



PART NO	d	D	H	R	L-1	*	L	QTY
TG-55-135-10300	2.5 ±0.12	4.5 ±0.30	1.1 ±0.25	0.10	3.0	0.20	5 ±0.2	6
TG-55-135-10300-01	2.5 ±0.12	4.5 ±0.30	1.1 ±0.25	0.10	3.0	0.20	12 ±0.8	6

* PERMISSIBLE DISPLACEMENT OF AXIS OF HEAD w.r.t.BODY

ANODIC OXIDATION FOLLOWED BY CHROMATE PASSIVATION.

CHEMICAL COMPOSITION (%)

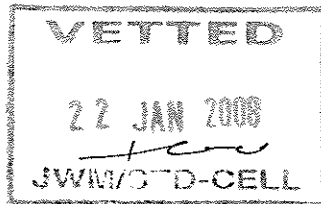
ALT MATL:-10 C4 IS:1570-79
ALT MATL AUTH CI (ICV) LETTER NO,02103/CQA
(ICV) MTPF/QID-II DT-31-12-87

	10 GOST-1050 - 74	10 C4 IS:1570-1979
CARBON	0.07 - 0.14	0.15 Max.
SILICON	0.17 - 0.37	---
MANGANESE	0.35 - 0.65	0.30 - 0.60
CHROMIUM	0.15 Max.	---
NICKEL	0.25 Max.	---
PHOSPHORUS	0.035 Max.	0.055 Max.
SULPHUR	0.040 Max.	0.055 Max.
COPPER	---	---

MECHANICAL PROPERTIES

TENSILE STRENGTH, Kg/mm ²	34 Min.	340 - 420 MPa
YIELD POINT, Kg/mm ²	21 Min.	---
ELONGATION, %	31 Min.	26 Min.
REDUCTION OF AREA %	55 Min.	---
HARDNESS, BHN	143 Max.	---

CONDITION - ANNEALED



THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT
BASE ON GOST-10300 Rz40 ✓ ✓

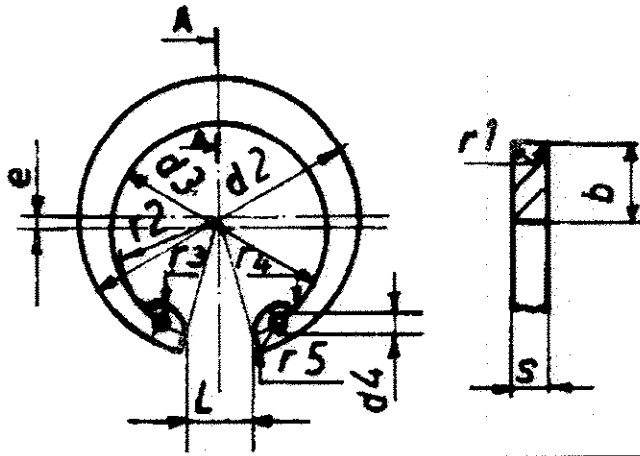
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE					
	रेखिक परिमाण LINEAR DIMENSION					
	0-4	±0.1				
	5-30	±0.2				
	30-120	±0.3				
	120-315	±0.5				
	315-1000	±0.8				
	1000-2000	±1.2				
	कोणिक परिमाण ANGULAR DIMENSION					
	1-10	±1'				
	10-50	±30'				
	50-100	±20'				
	>100	±10'				
	मापक 'म्यू एम' में VALUE IN 'μm'					
	~	>25				
	∇	8-25				
	▽▽	1.6-8				
	▽▽▽	0.025-1.6				
	▽▽▽▽	<0.025				
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विचलन DEVIATION	RIVET COUNTER SUNK HEAD AZIMUTH INDICATOR HO-5203-66		संशोधन ALTERATION	2008	दिनांक DATE
		संबंधित पुर्जा क्र. आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	कार्यालय OFFICE	मापमान SCALE	आरेखित DRAWN
					22.01.08	Y.D.K.
					जाँचा CHECKED	
					अनुमोदित APPROVED	A.K.N.
					द्वारा बदला REPLACED BY	
					हेतु बदला REPLACED FOR	
					आरेखण क्र. DRAWING NO.	
					MPF/TG-BMP-II/10300	

UPTO DATED AS PER OLD VETTED DRG

File Path: D:/KHAN/BMP-II(R)/TG-55-135-10300

MPF/TG-BMP-II/10300

AF-2



d2	d3H14	r2	r4	r5	r3	LH14	bh14	Sh12	d4H13	r1	e
23.5 ^{+0.42} _{-0.21}	19.7 ^{+0.52}	9.7	2.0	1.00	2.1	6.00 ^{+0.30}	2.5 ^{-0.30}	1.00 ^{-0.09}	2.00 ^{+0.180}	0.2	0.60

SURFACE TREATMENT CADMIUM COATING 15 mkm THICKNESS.

SURFACE COATING / TREATMENT SHALL BE AS PER ORIGINAL GOST

CHEMICAL COMPOSITION (%)

THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-13943



	65 G GOST-1050 - 74	50CrIV23 (50Cr4V2) IS:1570-(PT-4)88
CARBON	0.62 - 0.70	0.45 - 0.55
SILICON	0.17 - 0.37	0.10 - 0.35
MANGANESE	0.90 - 1.20	0.50 - 0.80
CHROMIUM	0.25 Max.	0.90 - 1.20
NICKEL	0.25 Max.	---
PHOSPHORUS	0.035 Max.	0.055 Max.
SULPHUR	0.040 Max.	0.055 Max.
VANADIUM	---	0.15 - 0.30

MECHANICAL PROPERTIES

TENSILE STRENGTH, Kg/mm ²	75 Min.	---
YIELD POINT, Kg/mm ²	44 Min.	----
ELONGATION, %	9 Min.	----
IMPACT STRENGTH,	---	----
HARDNESS, BHN	229Max.	----

NORMALISING

* 22x1 N IS:3075

* LETTER NO.CQA-ICV/02019/III/ID-III/
DRG.AMEND DT-17-5-93

* ALT MATL:-GRADE 50 Cr IV - 23 IS:1570-79

* ALT MATL AUTH, CI(ICV)LETTER NO.02103/
CQA(ICV) MTPF/QID-II DT-31-12-87

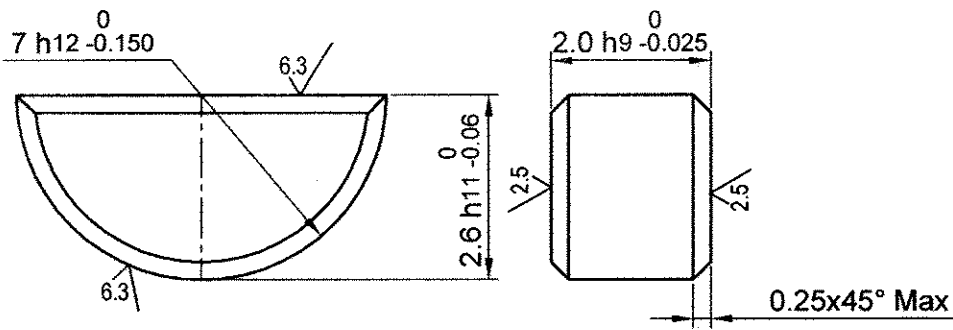
				65 G GOST-1050 - 74					
संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS			
सामान्य सहिष्णुता GENERAL TOLERANCE				NOTE ADDED ON-3.8.11	2.8.11				
रेखिक परिमाण LINEAR DIMENSION									
0-6									
6-30									
30-120									
120-315									
315-1000									
1000-2000									
कोणिक परिमाण ANGULAR DIMENSION		संख्या NO.OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME	
1-10									
10-50									
50-100									
>100									
मापक 'स्यू एम' में VALUE IN "um"									
~									
∇									
∇∇									
∇∇∇									
∇∇∇∇									
		RING		AZIMUTH INDICATOR-5203-66		मापमान SCALE	आरेखित DRAWN	22.01.08	Y.D.K.
						NTS	जाँचा CHECKED	23/11	
							अनुमोदित APPROVED		AKN
							द्वारा बदला REPLACED BY		
							हेतु बदला REPLACED FOR		
							आरेखण क्र. DRAWING NO.		
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT		विचलन DEVIATION		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		कार्यालय OFFICE		D.O.	
								MPF/TG-BMP-II/13943	

UPTO DATED AS PER OLD VETTED DRG

D:/KHAN/BMP-II(R)TG-55-135-13943

MPF/TG-BMP-II/13943

AR-2



SURFACE TREATMENT COATING CHEMICAL - PHOSPHATING, CHROMIUM, OIL, FINISHED.
SURFACE COATING / TREATMENT SHALL BE AS PER ORIGINAL GOST SPEC.

CHEMICAL COMPOSITION (%)

	45 GOST- 1050-74	45 C8 IS: 1570-79
CARBON	0.42 - 0.50	0.40 - 0.50
SILICON	0.17 - 0.37	----
MANGANESE	0.50 - 0.80	0.60 - 0.90
CHROMIUM	0.25 Max	-----
PHOSPHORUS	0.035 Max	0.055 Min.
SULPHUR	0.040 Max	0.055 Min.
NICKEL	0.25 Max	-----
COPPER	0.25 Max	-----



THIS SKETCH ALONG WITH ALL
 DETAILS IS AN ABSTRACT
 BASED ON GOST-24071

- * 2x2.6 IS:2294
- * LETTER NO.CQA-ICV/02019/III/ID-II/
DRG.AMEND DT-17-5-93
- * ALT MATL:-45C8 IS:1570-79
- * ALT MATL AUTH, CI(ICV)LETTER NO.02103/
CQA(ICV) MTPF/QID-II DT-31-12-87

MECHANICAL PROPERTIES

TENSILE STRENGTH, Kgf/mm ² 61 Min.	TENSILE STRENGTH MPa 630 - 710
YIELD STRENGTH, Kgf/mm ² 36 Min.	0.2 PERCENT PROOF STRESS MPa ----
ELONGATION, % 16 Min.	ELONGATION, % 15 Min.
IMPACT STRENGTH, Kgf/cm ² 5 Min.	IZOD IMPACT VALUE ----
HARDNESS, - HB 229 Max.	HARDNESS = HB ----
REDUCTION OF AREA, % 40 Min.	

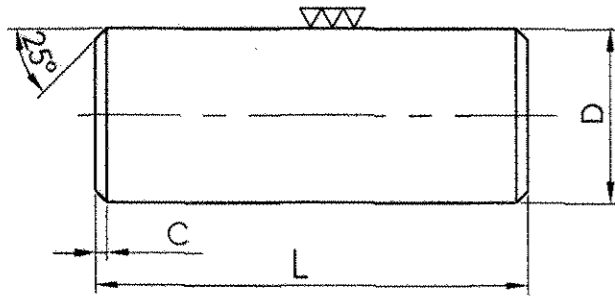
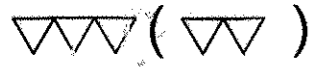
125/(✓)

संख्या NO. OFF		विवरण DESCRIPTION		पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	
सामान्य सहिष्णुता GENERAL TOLERANCE				STEEL 45 GOST-1050 - 74					
रेखिक परिमाण LINEAR DIMENSION				NOTE ADDED ON 3.8.11					
0-6	±0.1								
6-30	±0.2								
30-120	±0.3								
120-315	±0.5								
315-1000	±0.8								
1000-2000	±1.2								
कोणिक परिमाण ANGULAR DIMENSION				संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	
1-10	±1°						2008	नाम NAME	
10-50	±30'							दिनांक DATE	
50-100	±20'							नाम NAME	
>100	±10'							दिनांक DATE	
मापक 'म्यू एम' में VALUE IN 'μm'				SEMI CIRCULAR KEY					
~	±25	AZIMUTH INDICATOR-5203-66					मापमान SCALE	आरेखित DRAWN	दिनांक DATE
▽	8-25						NTS	जांचा CHECKED	दिनांक DATE
▽▽	1.6-8							अनुमोदित APPROVED	नाम NAME
▽▽▽	0.025-1.6								दिनांक DATE
▽▽▽▽	<0.025								नाम NAME
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विचलन DEVIATION	मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH				कार्यालय OFFICE	द्वारा बदला REPLACED BY	हेतु बदला REPLACED FOR	आरेखण क्र. DRAWING NO.
						D.O.			MPF/TG-BMP-1/24071

UPTO DATED AS PER OLD VETTED DRG

D:/KHAN/BMP-II(R)TG-55-135-24071

MPF/TG-BMP-II/24071



b) THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON OST-3-2234

CHEMICAL COMPOSITION (%)				
	* STEEL 38 XC GOST 4543-71	* 709 M 40 (EN 19) BS:970 PT-1:1983	STEEL 45 GOST 1050-1974 @	@ 45 C8 IS:15 70-79
CARBON	0.34 - 0.42	0.36 - 0.44	0.42 - 0.50	0.35 - 0.45
SILICON	1.00 - 1.40	0.10 - 0.35	0.17 - 0.37	0.10 - 0.35
MANGANESE	0.30 - 0.60	0.70 - 1.00	0.50 - 0.80	0.60 - 0.90
CHROMIUM	1.30 - 1.60	0.90 - 1.20	0.25 Max.	----
NICKEL	0.30 Max.	----	0.25 Max.	----
PHOSPHORUS	0.035 Max.	0.035 Max.	0.035 Max.	-----
SULPHUR	0.035 Max.	0.040 Max.	0.04 Max.	0.055 Max.
COPPER	0.30 Max.	----	0.25 Max.	0.055 Max.
MOLYBDENUM	----	0.25 - 0.35	---	-----

MECHANICAL PROPERTIES

ULTIMATE TENSILE STRENGTH, Kg/mm ² 95 Min.	TENSILE STRENGTH, N/mm ² 850 - 1000	ULTIMATE TENSILE STRENGTH, Kg/mm ² 61 Min.	TENSILE STRENGTH, MPa 600 - 750
YIELD POINT, Kg/mm ² 75 Min.	YIELD STRENGTH, N/mm ² 700 Min.	YIELD POINT, Kg/mm ² 36 Min.	0.2 % PROOF STRESS, MPa 380 Min.
RELATIVE ELONGATION, % 12 Min.	ELONGATION, % 5.56 $\sqrt{s_0}$ 9 Min.	RELATIVE ELONGATION, % 16 Min.	ELONGATION, % 18 Min.
RELATIVE REDUCTION, ALONG CROSS SECTION, % 50 Min.	IMPACT IZOD, ft.lb 40 Min.	RELATIVE REDUCTION OF AREA, % 40 Min.	IZOD IMPACT, J 41 Min.
IMPACT STRENGTH, Kgm/cm ² 7 Min.	HARDNESS, HB 248 - 302 HB	IMPACT STRENGTH, Kgm/cm ² 4 Min.	LIMITING RULING SECTION, 63 mm.
HARDNESS, BHN 255 Max.		HARDNESS, BHN 255 Max.	

PART NO	D	L	C		QTY	MATERIAL
EG-126-147	3Ø ^{+0.032} / _{+0.018}	16 ⁰ / _{-0.43}	0.5		1	@
TG-EG-127-16	4Ø ^{+0.041} / _{+0.023}	16 ⁰ / _{-0.43}	0.6		1+1	@
EG-TG-120-4	5Ø ^{+0.041} / _{+0.023}	30 ⁰ / _{-0.52}	0.8		1	@
EG-TG-126-149	5Ø ^{+0.041} / _{+0.023}	28 ⁰ / _{-0.52}	0.8	USE FOR-135-285	1+1	@
EG-TG-124-5	5Ø ^{+0.041} / _{+0.023}	25 ⁰ / _{-0.52}	0.8		2	@
EG-TG-124-6	8Ø ^{+0.050} / _{+0.028}	22 ⁰ / _{-0.52}	1.2	USE FOR-131-3-5	2+2	@
EG-TG-135-286	8Ø ^{+0.050} / _{+0.028}	28 ⁰ / _{-0.52}	1.2		1	@
MTG-04-94	10Ø ^{+0.050} / _{+0.028}	25 ⁰ / _{-0.52}	1.6		2	@
MEG-04-27	12Ø ^{+0.060} / _{+0.033}	30 ⁰ / _{-0.52}	1.6		2	*
TG-3-2234-135-5203	8Ø ^{+0.050} / _{+0.028}	10 ⁰ / _{-0.43}	1.2	FOR AZIMUTH INDI	1	@

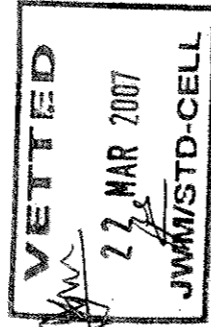
**PROTECTIVE FINISH
PHOSPHATING COATING**

@ ALT.MATL:-45C8, IS:1570-1979

@ ALT.MATL AUTH CI(ICV)LETTER NO.02103/CQA(ICV)MTPF/QID-II DT-31-12-87

*ALT.MATL:-EN 19 OR 709 M40 (BS:970 PT-I-1983)

*ALT.MATL ADDED AS PER CQA (ICV) LETTER NO.CQA (ICV)/2103/MPF/ GEN/QID DT-3/06 (PARA 4d) ADDED ON DT-18-11-06



इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

संख्या NO.OFF	विवरण DESCRIPTION	पुरजा क्र. PART NO	पदार्थ MATERIAL	मानक STANDARD	परिमाणु DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE		@	DIM L 10-8.43 WAS DIM L 6	16.1.10	Le
	रेखिक परिमाणु LINEAR DIMENSION		b)	DRG UP TO DATED ON DT-5-7-2011	5.7.11	Le
	कोणिक परिमाणु ANGULAR DIMENSION					
	मापक 'म्यू एम' में VALUE IN 'um'					
	1-10	±1'				
	10-50	±3C				
	50-100	±20'				
	>100	±10'				
	>25					
	▽	8-25				
	▽▽	1.8-8				
	▽▽▽	0.025-1.6				
	▽▽▽▽	<0.025				
LOCK PIN					2007	दिनांक DATE
OST - 3 - 2234 - 80						नाम NAME
						मापमान SCALE
						आरेखित DRAWN
						13.3.07
						Y.D.K.
						जाँचा CHECKED
						23/3
						P.V.T.
						अनुमोदित APPROVED
						23/3
						D.P.S.
						द्वारा बदला REPLACED BY
						हेतु बदला REPLACED FOR
						आरेखण क्र. DRAWING NO.
						MPF/TG-EG-BMP-II/3-2234
						D.O.

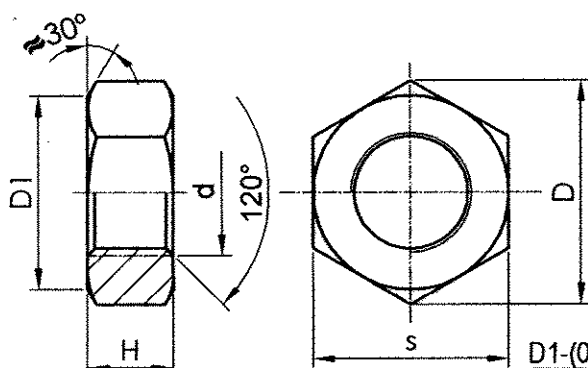
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH

कार्यालय OFFICE
D.O.

Ref: GOST STD - OST - 3 - 2234 - 80

Pithe

02/16



*ALT MATL:-GRADE 35 C8 IS:1570-79
 *ALT MATL AUTH CI(ICV)LETTER NO.02103/CQA(ICV)
 MTPF/QID-II DT-31-12-87
 @ M3-IS:1364 (PART-3)-6.8
 M6-IS:1364 (PART-3)-6.8
 M4-IS:1364(PART-3)-6.8
 @LETTER NO.CQA-ICV/02019/III/ID-II/DRG.AMEND DT-17-5-93

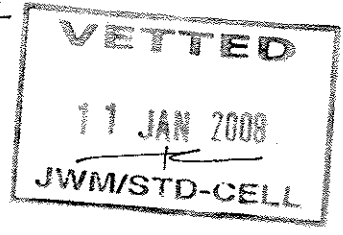
PART NO	d	H	S	D	PITCH	MAXIMUM DISPLACEMENT OF CENTRE LINE w.r.t.SIDE	
TG-EG-120-1-5	M 3	2.4 ^{-0.25}	5.5 ^{-0.16}	6	0.5	0.20 Max	
TG-EG-126-129	M 6	5.0 ^{-0.30}	10.0 ^{-0.20}	11	1.0	0.25 Max	USE FOR 135-238
TG-5927-135-5203	M 4	3.2 ^{-0.30}	7 ^{-0.20}	7.7	0.7	0.25 Max	USE-AZIMUTH INDICATOR

CHEMICAL COMPOSITION (%)

	35 GOST-1050 - 74	35 C8 IS:1570-1979
CARBON	0.32 - 0.40	0.30 - 0.40
SILICON	0.17 - 0.37	----
MANGANESE	0.50 - 0.80	0.60 - 0.90
CHROMIUM	0.25 Max.	----
NICKEL	0.25 Max.	---
PHOSPHORUS	0.035 Max.	0.055 Max.
SULPHUR	0.040 Max.	0.055 Max.
COPPER	---	---

ZINC PLATING FOLLOWED BY CHOROMATE PASSIVATION. PLATING THICKNESS 6 MICRONS.
 SURFACE COATING/TREATMENT SHALL BE AS PER ORIGINAL GOST SPECN.

THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASE ON GOST-5927



MECHANICAL PROPERTIES

TENSILE STENGTH, Kg/mm ²	54 Min.	550 - 650 MPa
YIELD POINT, Kg/mm ²	32 Min.	----
ELONGATION, %	20 Min.	20 Min.
IMPACT STRENGTH,	7 Min.	----
HARDNESS, BHN	207	----

		GOST-5927-70					
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	
	सामान्य सहिष्णुता GENERAL TOLERANCE		NOTE ADDED				3.8.11
	रेखिक परिमाण LINEAR DIMENSION						
	0-6 ±0.1						
	6-30 ±0.2						
	30-120 ±0.3						
	120-315 ±0.5						
	315-1000 ±0.8						
	1000-2000 ±1.2						
	कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE
	1-10 ±1°						
	10-50 ±30'						
	50-100 ±20'						
	>100 ±10'						
	मापक 'मू एम' में VALUE IN 'um'						
	~ >25						
	▽ 8-25						
	▽▽ 1.6-8						
	▽▽▽ 0.025-1.6						
	▽▽▽▽ <0.025						
		NUT HEXAGONAL				मापमान SCALE	आरेखित DRAWN
		BMP-II				NTS	1.01.08 Y.D.K.
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH				जाँचा CHECKED	11/01
						अनुमोदित APPROVED	A.K.N.
						द्वारा कदला REPLACED BY	
						हेतु कदला REPLACED FOR	
मूलमाप व अन्यायोजन NOMINAL SIZE & FIT	विचलन DEVIATION			कार्यालय OFFICE	आरेखण क्र. DRAWING NO. MPF/TG-EG-BMP-II-5927		
				DO			

UPTO DATED AS PER OLD VETTED DRG

File Path: D:/KHAN/BMP-II(R)/TG-5927

MPF/TG-EG-BMP-II/5927
AR-2

PART NO	NOM DIA	A	S	B	
TG-135-260 *	4	+0.30 4.1	±0.125 1.4	±0.125 1.4	USE FOR AZIMUTHINDICATOC 5 NOS & ELECTROMAGNET 3 NOS
TG-EG 135-262	6	+0.58 6.1	±0.125 2.0	±0.125 2.0	USE-126-143
TG- EG 135-263	8	+0.58 8.1	±0.125 2.5	±0.125 2.5	USE-126-144 & 04-76
TG-EG 135-264	10	+0.70 10.1	±0.24 4.0	±0.24 4.0	USE-126-145 & -04-77
AM46-010 Cb-14	2	+0.25 2.1	±0.07 0.6	±0.07 0.6	© 2- IS:6735 OXIDATION
AM 46-000-32	3	+0.25 3.1	±0.125 1.0	±0.125 1.0	© 3- IS:6735 OXIDATION

CHEMICAL PROPERTIES

	65 G GOST- 1050-74	Grade-3 70 C6 IS:4072-1975
CARBON	0.62 - 0.70	0.65 - 0.75
SILICON	0.17 - 0.37	0.10 - 0.35
MANGANESE	1.0 Max	0.50 - 0.80
CHROMIUM	0.25 Max	---
PHOSPHORUS	0.025 Max	0.050 Max
SULPHUR	0.025 Max	0.050 Max
NICKEL	0.25 Max	----
COPPER	0.25 Max	---

VETTED
 04 AUG 2007
 JWM/STD-CELL

MECHANICAL PROPERTIES

YIELD STRENGTH kgf/mm ²	YIELD STRENGTH kgf/mm ²
42	---
ULTIMATE TENSILE STRENGTH , kgf/mm ²	ULTIMATE TENSILE STRENGTH , kgf/mm ²
71	---
RELATIVE ELONGATION, % 10 (MIN)	RELATIVE ELONGATION, % ---
30	---
REDUCTION OF AREA, % (MIN)	REDUCTION OF AREA, % (MIN)
30	---
ROCKWELL HARDNESS HRC	ROCKWELL HARDNESS HRC
40 - 50	---

SURFACE TREATMENT

* OXIDATION PARKERISING FOLLOWED BY OILING.

- © 2- IS:6735 OXIDATION
- 3- IS:6735 OXIDATION
- © LETTER NO CQA-ICV/02019/III/ID/DRG AMEND DT-15-7-93
- © ALT MATL:-IS:4072 GRADE - 3
- © ALT MATL AUTH NO CQA-ICV/2103/MTPF/ALT.MATL DT-19-3-93

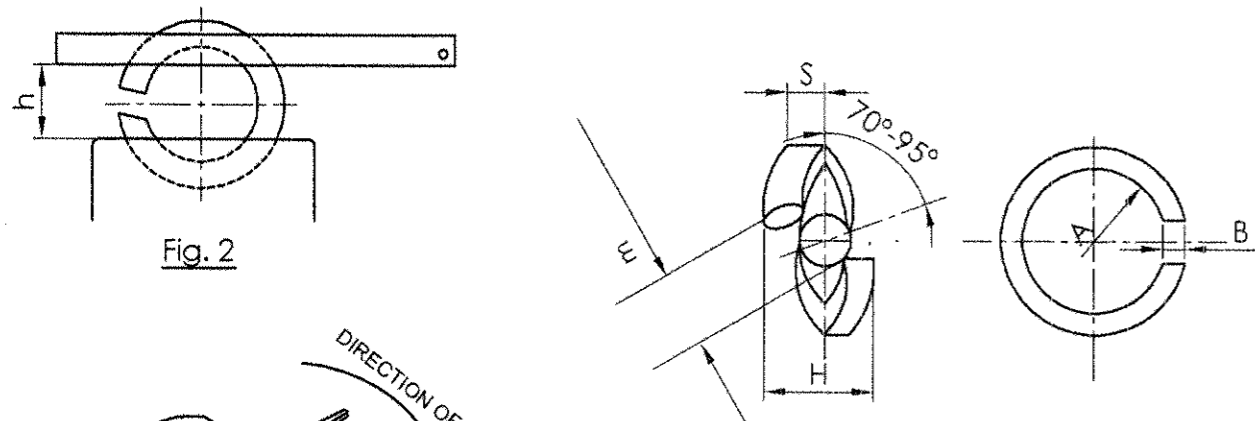


Fig. 2

Fig. 3

Fig. 4

$H-2S \pm 15\%$
 $m=MAX 0.75$

SURFACE COATING/TREATMENT SHALL BE AS PER ORIGINAL GOST. SPEC

TESTING THE TENACITY:

ONE END OF THE WASHER IS CLAMPED IN VICE, IT'S OTHER END IS BENT WITH MONKEY WRENCH OR HANDLE HAVING A SLOT TO THE SIDE OF INCREASE OF DIMENSION 'H'. DURING THE TEST, DIMENSION 'h' SHOULD BE MAINTAINED (BETWEEN THE JAWS OF VISE AND WRENCH) EQUAL TO HALF THE INNER DIAMETER OF WASHER (SEE FIG. 2, 3, 4).

RESILIENT PROPERTIES OF WASHERS ARE TESTED AS FOLLOWS.

- a) THE WASHER ARE COMPRESSED TO A FLAT CONDITION THREE TIMES.
- b) SPRING WASHER ARE SEPARATED FROM ONE ANOTHER WITH FLAT WASHERS AND MOUNTED ON THE BODY OF A BOLT OF CORRESPONDING SIZE AND TIGHTENED WITH A NUT TILL THE SEPARATED ENDS ARE FULLY COMPRESSED. THEY ARE HELD IN THIS CONDITION FOR 24 HOURS.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & F.T

विचलन
DEVIATION

*** MATERIAL :**

STEEL 65G GOST-1050-74

THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-6402

संख्या NO OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यन्तित REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE					DRG UP TO DATED SN. DT. 5.7.2011
	रेखिक परिमाण LINEAR DIMENSION					
	0-6					±0.1
	6-30					±0.2
	30-120					±0.3
	120-315					±0.5
	315-1000					±0.8
	1000-2000					±1.2
	कोणिक परिमाण ANGULAR DIMENSION					
	1-10					±1'
	10-50					±30'
	50-100					±20'
	>100					±10'
	मापक 'म्यू एम' में VALUE IN 'μm'					
	-					>25
	▽					8-25
	▽▽					1.6-8
	▽▽▽					0.025-1.6
	▽▽▽▽					<0.025
	संख्या NO OFF	संबन्धित पुर्जा क्र आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2007	दिनांक DATE
						नाम NAME
						Y.D.K.
						A.K.N.
						द्वारा बदला REPLACED BY
						हेतु बदला REPLACED FOR
						आरेखण क्र. DRAWING NO.
						MPF/TG-EG-BMP-II/6402

WASHER SPRING

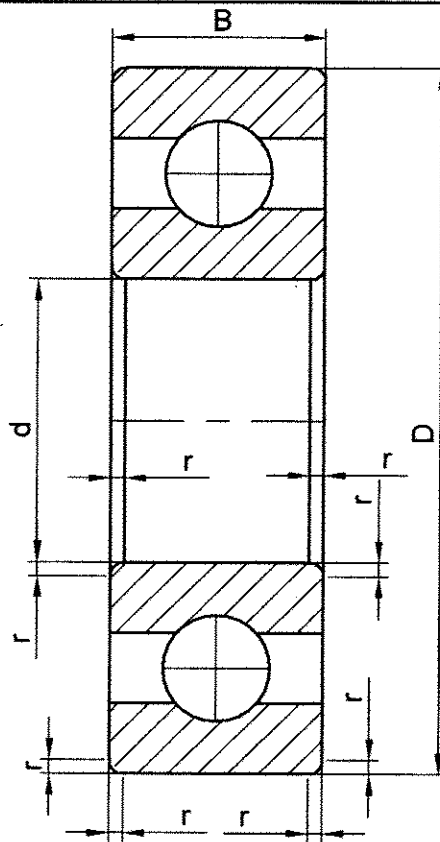
B.M.P. II

मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH

कार्यालय
OFFICE
D.O.

UPDATED AS PER OLD VETTED DRG.

D:/KHAN/BMP-II (R) TGED 6402



VETTED
16 JAN 2008
JWM/STD-CELL

PART NO	QTS	D	B	d	r	REMARKS	e
TG-EG-135-301	8	32	10	12	1.0	USE FOR - 126-163/ SKF-6201/P6	DS CAT.NO-LV6/MT7/3110-000087
TG-EG-135-303	7	40	12	17	1.0	USE FOR - 126-165/ SKF-6203	DS CAT.NO-LV6/MT7/3110-000922
TG-135-302	2	35	11	15	1.0	SKF-6202	DS CAT.NO-LV6/MT7/3110-000091
TG-135-307	2	22	7	8	0.5	SKF HMT-608/P6	
TG-135-308	1	42	12	20	1.0	SKF-6004/P6	DS CAT.NO-LV6/MT7/3110-00244
AZIMUTH INDICATOR 5203-10	2	22	7	7	0.5	SKF/627	

THIS SKETCH ALONG WITH ALL DETAILS IS AN
ABSTRACT BASED ON GOST-8338

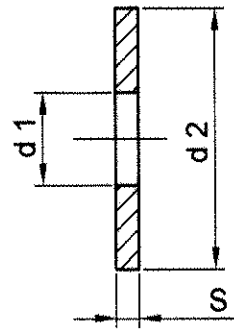
				GOST-8338			
संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	
सामान्य सहिष्णुता GENERAL TOLERANCE			@ SKF-6201/P6 वा SKF-6201		2.2.0		
रेखिक परिमाण LINEAR DIMENSION			NOTE ADDED		2.8.11		
0-6	±0.1						
6-30	±0.2						
30-120	±0.3						
120-315	±0.5						
315-1000	±0.8						
1000-2000	±1.2						
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO.OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME
1-10	±1°						
10-50	±30'						
50-100	±20'						
>100	±10'						
मापक 'म्यू एम' में VALUE IN 'um'							
~	>25						
√	8-25						
∇	1.6-8						
▽▽	0.025-1.6						
▽▽▽	<0.025						
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विचलन DEVIATION	BALL BEARING BMP-II		कार्यालय OFFICE	मापमान SCALE	आरेखित DRAWN	16.01.08 Y.D.K.
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		DO	NTS	जाँचा CHECKED	
						अनुमोदित APPROVED	A.K.N.
						द्वारा बदला REPLACED BY	
						हेतु बदला REPLACED FOR	
						आरेखण क्र. DRAWING NO.	MPF/TG-EG-BMP-II/8338

UPTO DATED AS PER OLD VETTED DRG

D:/KHAN/BMP-II(R)GOST-8338

MPF/TG-EG-BMP-II/8338 AF-2

TG EG - 11371



PART NO	NOM DIA	d 1	d 2	S	
TG - 135 - 250	4	4.3	9	0.8	USE FOR AZIMUTHINDICATOR 7 NOS.
TG EG - 126 - 135	6	6.4	12.5	1.0	USE FOR - 135 - 251
TG EG - 126 - 137	8	8.4	17.0	1.6	USE FOR - 135 - 252
TG EG - 126 - 139	10	10.5	21.0	2.0	USE FOR - 04 - 73 & 135 - 253
MTG - 04 - 74	12	13.0	24.0	2.0	
TG - 135 - 257	16	17.0	30.0	2.5	
TG - 135 - 255	24	25.0	44.0	4.0	
TG - 135 - 254	16	17.0	30.0	1.5	

ZINC PLATING FOLLOWED BY CHROMATE PASSIVATION. THICKNESS OF PLATING 9 (OR 6) MICRON.

- @ A4-IS:2016-STEEL
- A6-IS:2016-STEEL
- A8-IS:2016-STEEL
- A10-IS:2016-STEEL
- A12-IS:2016-STEEL
- A16-IS:2016-STEEL
- A24-IS:2016-STEEL

SURFACE COATING / TREATMENT SHALL AS PER ORIGINAL GOST. SPEC

USE MACHINED WASHER TO IS: 2016. EXCEPT FOR ITEM NO. TG-135-254 (A16)

@ LETTER NO.CQA-ICV/02019/III/ID-II/DRG.AMEND DT-17-5-93

* ALT MATL:-GRADE 10 C4 IS:1570-79

* ALT MATL AUTH. CI (ICV) LETTER NO.02103/CQA (ICV) MTPF/QID-II DT-31-12-87

CHEMICAL COMPOSITION	10 Kn GOST- 1050-74	10 C4 IS:1570 - 79
CARBON	0.07 - 0.14	0.15 Max.
SILICON	0.07 Max.	---
MANGANESE	0.25 - 0.50	0.30 - 0.60
CHROMIUM	0.15 Max.	---
PHOSPHORUS	0.035 Max.	0.055 Max.
SULPHUR	0.040 Max.	0.055 Max.
NICKEL	0.25 Max.	---
COPPER	0.25 Max.	---
MECHANICAL PROPERTIES		
TENSILE STRENGTH, - Kg/mm ²	34	340 - 420 MPa
YIELD POINT, Kg/mm ²	21	---
ELONGATION, %	31	26
REDUCTION IN AREA	55	---
BRINELL HARDNESS -HB	143 Max.	---

@ THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-11371



इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE					@ DRG UP TO DATE ON DT. 5.7.2011
	रेखिक परिमाण LINEAR DIMENSION					
	0-6 ±0.1					
	6-30 ±0.2					
	30-120 ±0.3					
	120-315 ±0.5					
	315-1000 ±0.8					
	1000-2000 ±1.2					
	कोणिक परिमाण ANGULAR DIMENSION					
	1-10 ±1°					
	10-50 ±30'					
	50-100 ±20'					
	>100 ±10'					
	मापक 'म्यू एम' में VALUE IN 'um'					
	- >25					
	∇ 8-25					
	∇∇ 1.6-8					
	∇∇∇ 0.025-1.6					
	∇∇∇∇ <0.025					
	संख्या NO.OFF	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2007	दिनांक DATE
						नाम NAME
						मापमान SCALE
						आरेखित DRAWN
						30.7.07
						Y.D.K.
						जाँचा CHECKED
						04/08
						अनुमोदित APPROVED
						A.K.N.
						द्वारा बदला REPLACED BY
						हेतु बदला REPLACED FOR
						आरेखण क्र. DRAWING NO.
						D.O. MPF/TG-EG-BMP-II/11371

WASHER PLAIN

B.M.P. II

मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH

कार्यालय
OFFICE

D.O.

UPDATED AS PER OLD VETTED DRG.

File Path: D:/KHAN/ BMP-II/(R)/TG EG 11371

M.T.P.F.
AMBARNATH

Parts - List FOR AZIMUTH INDICATOR

Order No.:

Sheet No.:
1/2

Assembly Drawing No.:
TG-55-135-5203

Group:

Subgroup:

MACHINE TOOL cum PROTOTYPE FACTORY, AMBARNATH

Part No.	No. per Group	Description and final Dimensions	Material Pattern No.	Remarks
TG-55-	135			
✓ 5203-10	✓ 1	✓ Azimuth Indicator Assy.		- Ndc No. 7 deleted, CoA - KV letter dt. 12.11.90
✓ 5203-20	✓ 1	✓ Casing Assy.		
✓ 5203-30	✓ 1	✓ Lamp Holder Assy.		
✓ 5203-40	✓ 1	✓ Planetary Pinion Assy.		
✓ 5203-50	✓ 1	✓ Gear Assy.		
✓ 5203-1	✓ 1	✓ Ring		
✓ 5203-2	✓ 1	✓ Glass		
✓ 5203-3	✓ 1	✓ Pointer		
✓ 5203-6	✓ 1	✓ Scale		
✓ 5203-7	✓ 2	✓ Gasket		
✓ 5203-8	✓ 1	✓ Shaft		
✓ 5203-11	✓ 1	✓ Casing		
✓ 5203-12	✓ 2	✓ Contact		
✓ 5203-13	✓ 1	✓ Gear		
✓ 5203-14	✓ 2	✓ Bushing		
✓ 5203-15	✓ 1	✓ Contact		
✓ 5203-16	✓ 1	✓ Lamp Holder & Bushing.		
✓ 5203-17	✓ 1	✓ Lamp Holder Body.		
✓ 5203-18	✓ 1	✓ Axle.		
✓ 5203-19	✓ 1	✓ Planetary Pinion.		
✓ 5203-21	✓ 1	✓ Carrier.		
✓ 5203-22	✓ 1	✓ Disc.		
✓ 5203-23	✓ 1	✓ Gear.		

VETTED
 22 JAN 2008
 JWM/STD-CELL

THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

Date: 31-1-85

Sig.:

OU -- Ordered unattached S -- Stock
 OI -- Ordered preattached A -- to be attached

Alterations

3/12

MACHINE TOOL cum PROTOTYPE FACTORY, AMBARNATH

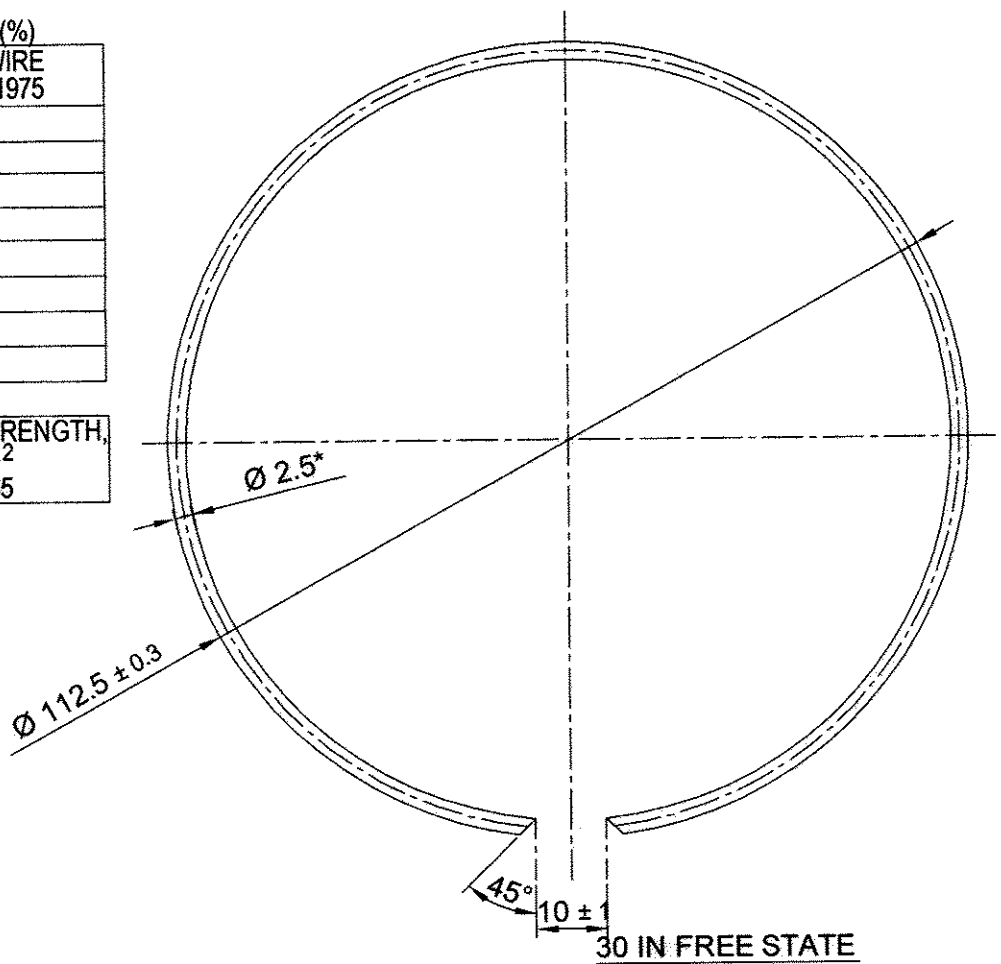
M.T.P.F. AMBARNATH		Parts - List ^{FOR} AZIMUTH INDICATOR			Order No.:	Sheet No. 2/2
		Group:			Assembly Drawing No.: TG-55-135-5203.	
		Subgroup:				
Part No.	No. per Group	Description and final Dimensions	Material Pattern No.	Remarks		
<p>TG-55-135</p> <p>✓ 2204 2 Filament Lamp. MH 26.0.12.1 ✓</p> <p>1491 1 Screw M4 x 8 Lg. ✓</p> <p>✓ 1491 2 Screw M4 x 20 Lg. ✓</p> <p>✓ 24071 2 Semi Circular Key. ✓</p> <p>✓ 13943 1 Ring. ✓</p> <p>10300 6 Rivet 2.5 x 12 Lg. ✓</p> <p>✓ 10300 6 Rivet 2.5x5 Lg. ✓</p> <p>✓ TG-11371-35</p> <p>250 7 Washer 4 Ø ✓</p> <p>✓ TG-6402-135</p> <p>260 5 Washer 4 Ø ✓</p> <p>✓ TG-32234-135</p> <p>5203 1 Lock Pin [@] 2x8x10 ✓</p> <p>✓ TG-5927-135</p> <p>5203 4 Nut. ✓</p> <p>✓ TG-8338-10</p> <p>2 Bearing. ✓</p> <p style="text-align: center;">SKF 627</p>						
				<p>⊗ DIMN. CHANGED, ICV LETTER NO. CQA-ICV/6696/ III/1D-II - DT-1-2.90</p>		
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">VETTED</p> <p style="text-align: center;">22 JAN 2008</p> <p style="text-align: center;">JWM/STD-CELL</p> </div> <p style="text-align: center; font-weight: bold; font-size: 1.1em;">THIS DRG. HAS BEEN PREPARED BASED ON AHSP DRG.</p>						
Date: 31-x-07		Sig.:		OU -- Ordered unmachined	S -- Stock	Alterations
				OP -- Ordered pre-machined	A -- to be altered	

CHEMICAL COMPOSITION (%)

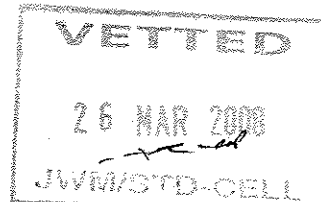
	KT-2 GOST, WIRE GOST- 9389-1975
CARBON	0.86 - 0.91
SILICON	0.17 - 0.37
MANGANESE	0.20 - 0.40
CHROMIUM	0.05 Max.
NICKEL	0.05 Max.
SULPHUR	0.020 Max.
PHOSPHORUS	0.020 Max.
COPPER	0.010 Max.

MECHANICAL PROPERTIES

TENSILE STRENGTH, Kg/mm ²
130 - 165



1. MATERIAL: WIRE III - 2.5 GOST-9389-75
 2. IT IS ALLOWED TO USE WIRE II - 2.5 GOST 9389-75 INSTEAD OF WIRE III - 2.5.
 3. COATING: ZINC PLATING, 24 MICRONS THICK.
- *SIZE FOR REFERENCE.

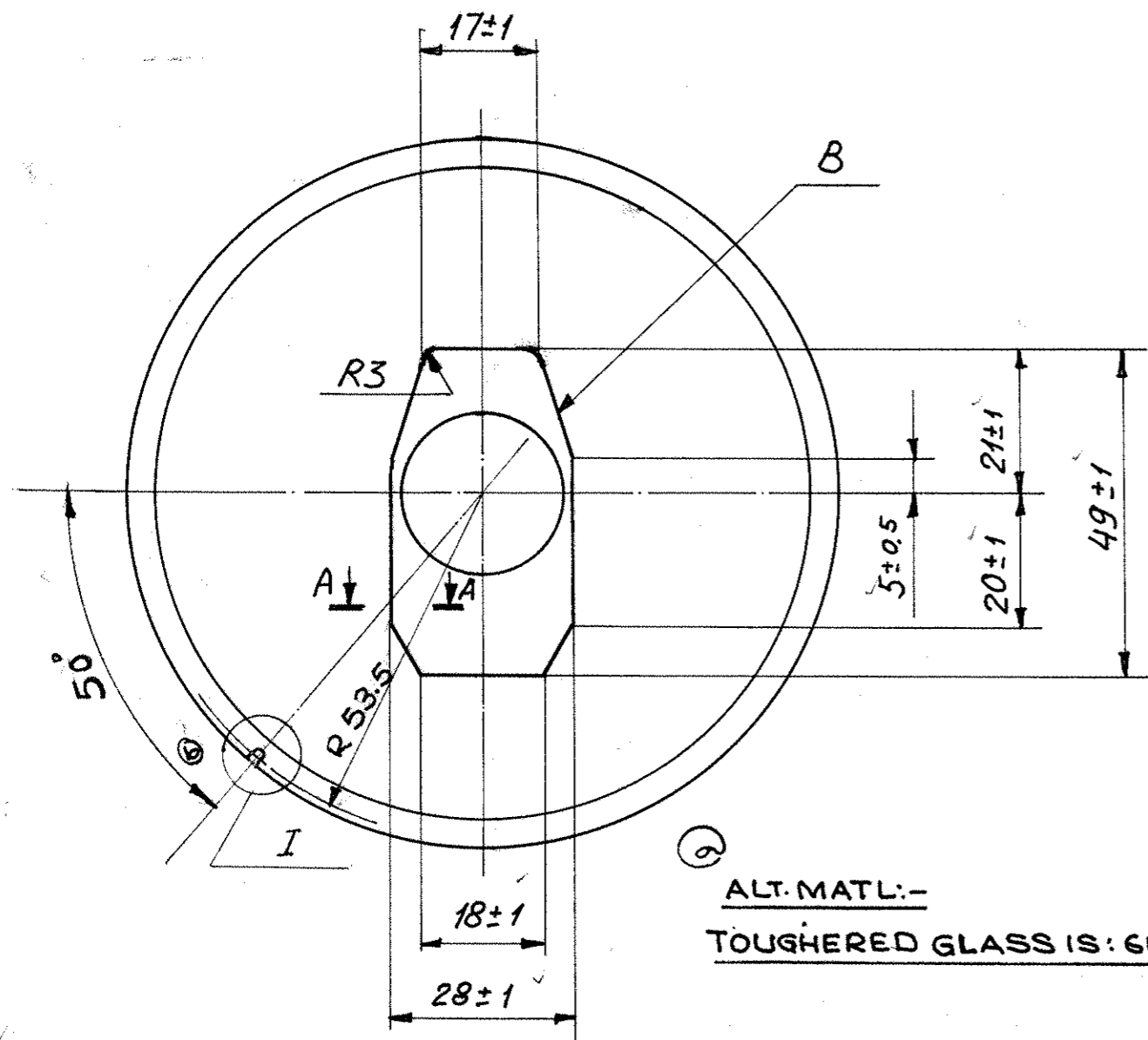


THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG. ^{Rz 80} (✓)

		WIRE III - 2.5 GOST - 9389-75		WT-0.012 Kg		
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
सामान्य सहिष्णुता GENERAL TOLERANCE						
रेखिक परिमाण LINEAR DIMENSION						
0-6	±0.1					
6-30	±0.2					
30-120	±0.3					
120-315	±0.5					
315-1000	±0.8					
1000-2000	±1.2					
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME
1-10	±1°				2008	
10-50	±30'					
50-100	±20'					
>100	±10'					
मापक 'म्यू एम' में VALUE IN 'μm'						
~	>25					
∅	8-25					
∅	1.6-8					
∅∅∅	0.025-1.6					
∅∅∅∅	<0.025					
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विचलन DEVIATION	RING AZIMUTH INDICATOR-HO-5203-66		मापमान SCALE	आरेखित DRAWN	21.02.08 Y.D.K.
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		कार्यालय OFFICE	जाँचा CHECKED	
				D.O.	अनुमोदित APPROVED	3.1.19 A.K.N.
					द्वारा बदला REPLACED BY	
					हेतु बदला REPLACED FOR	BTA-1
					आरेखण क्र. DRAWING NO.	1/23
					TG-55-135-5203-1	

UPDATED AS PER OLD VETTED DRG.

D:KHAN/BMP-II/(R)TG-55-135-5203-1 1/23



ALT. MATL:-
TOUGHNERED GLASS IS: 6180-1971

*** SIZE FOR REFERENCE**

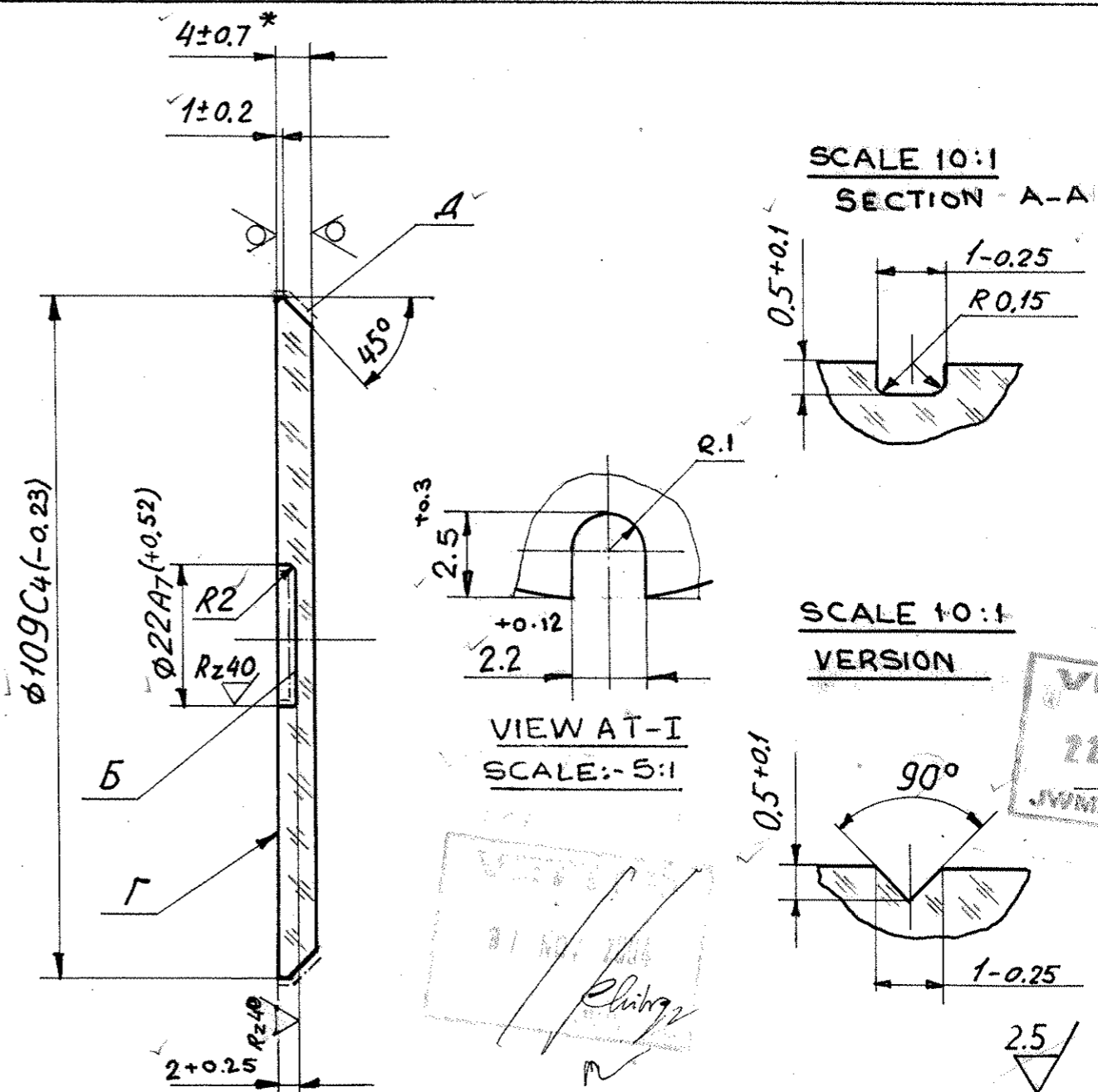
- MATERIAL: ORGANIC STRUCTURAL GLASS, GRADE CO14 GOST 15809-70.
 - GLASS SHOULD BE CLEAR AND TRANSPARENT.
 - POLISH SURFACE A TILL TRANSPARENCY IS OBTAINED.
 - CONTOUR B SHOULD BE MADE ON SURFACE F.
 - DEVIATION OF CONTOUR B FROM SYMMERTIC POSITION SHOULD NOT EXCEED 1 mm.
 - FILL CONTOUR B AND COAT SURFACE B WITH BLACK ENAMEL IIΦ-115 GOST 6465-76
- THIS DRG HAS BEEN PRAPARED BASED ON AHSP DRG.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वायोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION



VIEW AT-I
SCALE:- 5:1

SCALE 10:1
SECTION A-A

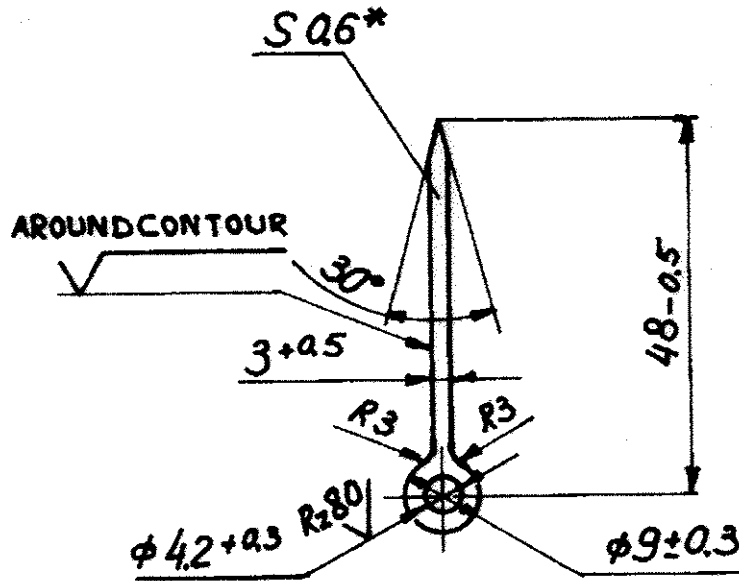
SCALE 10:1
VERSION

VETTED
22 JAN 2008
JWM/STD-CELL

संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE		ALT. MATL AUTHC. (LCV) LETTER			
	रेखिक परिमाण LINEAR DIMENSION		NO. CQA (LCV) 2103/MTPC/81D		30780	
	0 - 6 ± 0.1		DT. 14.7.88			
	6 - 30 ± 0.2		LOCATION DIMENSIONS AND ENLARGED VIEW OF GROOVE ADDED			
	30 - 120 ± 0.3		AUTH. I CV LETTER NO. CQA			
	120 - 315 ± 0.5					
	315 - 1000 ± 0.8					
	1000 - 2000 ± 1.2		LCV/6696/III/10-II DT. 1-2-90		28-2-90	
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME
1 - 10 ± 1°						
10 - 50 ± 30'						
50 - 100 ± 20'						
> 100 ± 10'						
मापों का 'म्यू एम' में VALUE IN 'μm'						
> 25						
8 - 25						
1.6 - 8						
0.025 - 1.6						
< 0.025						
GLASS						मापमान SCALE
AZIMUTH INDICATOR HO-5203 - 66						1:1
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH						आरेखित DRAWN
						-9.87
कार्यालय OFFICE						जांचा CHECKED
						13.10
W.M.T.						अनुमोदित APPROVED
द्वारा बदला REPLACED BY						द्वारा बदला REPLACED BY
						BTA-2
DRAWING NO.						आरेखण क्र. DRAWING NO.
						TG-55-135-5203-2

CZ/213

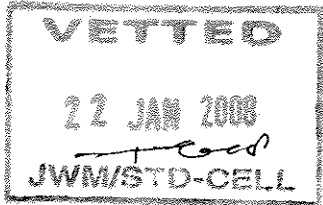
213



1. MATERIAL: STEEL 65G GOST-1050-74.
2. CONDITION OF SURFACE MARKED WITH SIGN ✓
ACCORDING TO RESPECTIVE TYPE-AND-SIZE RANGE OF MATERIAL.
3. HEAT TREATMENT HRC 40 TO 45.
4. COATING : GLAZY ELECTROLESS OXIDIZING.
5. * SIZE FOR REFERENCE.

CHEMICAL COMPOSITION (%)

	65 G GOST-1050 - 74	50CrIV23 (50Cr4V2) IS:1570-(PT-4)88
CARBON	0.62 - 0.70	0.45 - 0.55
SILICON	0.17 - 0.37	0.10 - 0.35
MANGANESE	0.90 - 1.20	0.50 - 0.80
CHROMIUM	0.25 Max.	0.90 - 1.20
NICKEL	0.25 Max.	---
PHOSPHORUS	0.035 Max.	0.055 Max.
SULPHUR	0.040 Max.	0.055 Max.
VANADIUM	---	0.15 - 0.30
MECHANICAL PROPERTIES		
TENSILE STRENGTH, Kg/mm ²	75 Min.	---
YIELD POINT, Kg/mm ²	44 Min.	---
ELONGATION, %	9 Min.	---
IMPACT STRENGTH,	---	---
HARDNESS, BHN	---	---



THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

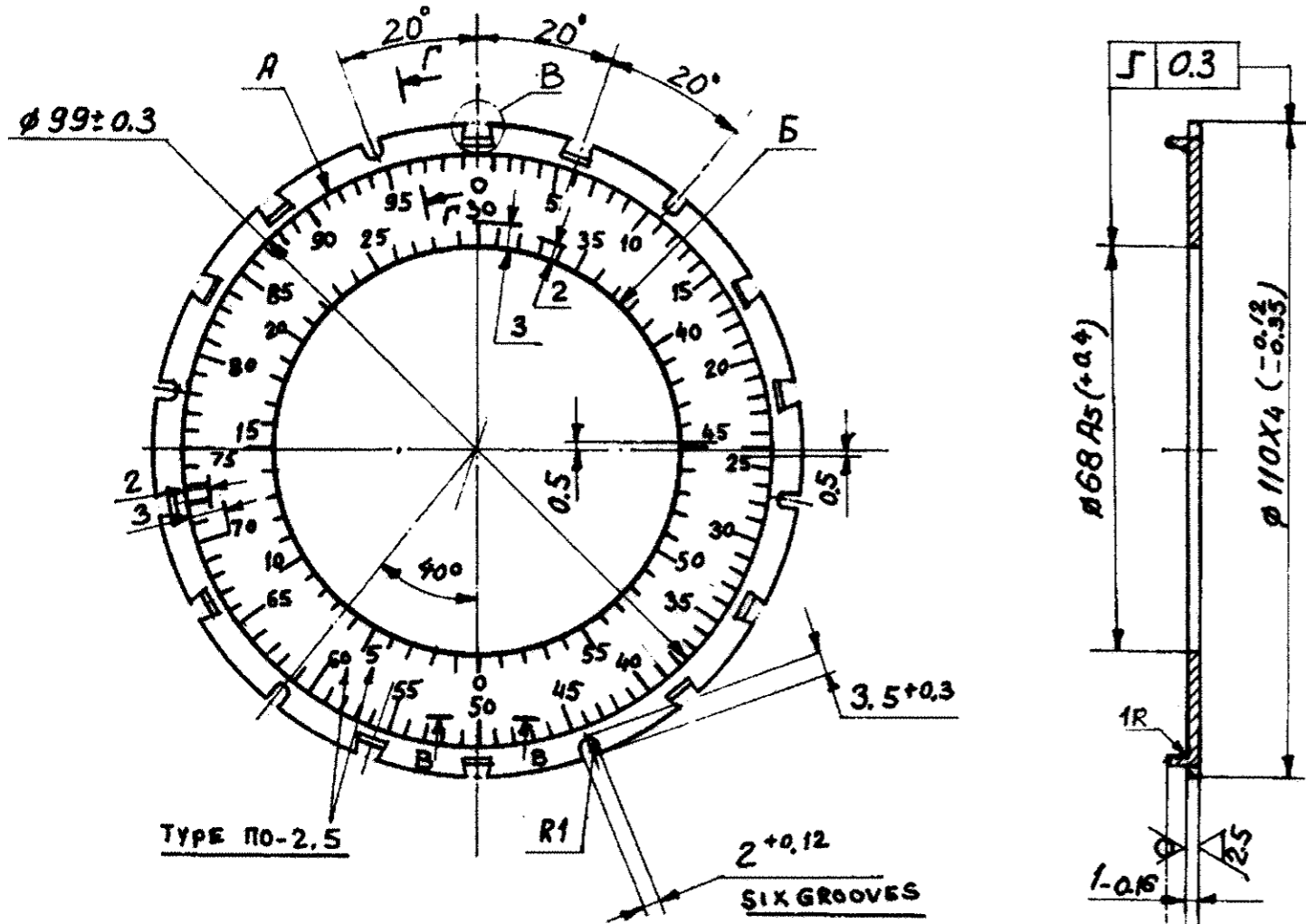
- * ALT MATL:-GRADE 50 Cr IV - 23 IS:1570-79
- * ALT MATL AUTH, CI(ICV)LETTER NO.02103/
CQA(ICV) MTPF/QID-II DT-14-7-88

✓(✓)

		65 G GOST-1050 - 74		WT-0.0005 Kg		
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यन्तित REMARKS
सामान्य सहिष्णुता GENERAL TOLERANCE						
रेखिक परिमाण LINEAR DIMENSION						
0-6	±0.1					
6-30	±0.2					
30-120	±0.3					
120-315	±0.5					
315-1000	±0.8					
1000-2000	±1.2					
कोणिक परिमाण ANGULAR DIMENSION		संख्या NO. OFF	संबंधित पुर्जाका औरखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE
1-10	±1°				2008	साम NAME
10-50	±30'					22.01.08
50-100	±20'					Y.D.K.
>100	±10'					
मापक 'म्यू एम' में VALUE IN 'μm'		POINTER		मापमान SCALE		आरेखित DRAWN
~	±25	AZIMUTH INDICATOR-5203-66		NTS		23/1
▽	8-25			द्वारा बदला REPLACED BY		अनुमोदित APPROVED
▽▽	1.8-5			हेतु बदला REPLACED FOR		A.K.N.
▽▽▽	0.025-1.6			BTA-3		
▽▽▽▽	<0.025			D.O.		
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विवचन DEVIATION	मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		कार्यालय OFFICE		आरेखण क्र. DRAWING NO. 3/23
						TG-55-135-5203-3

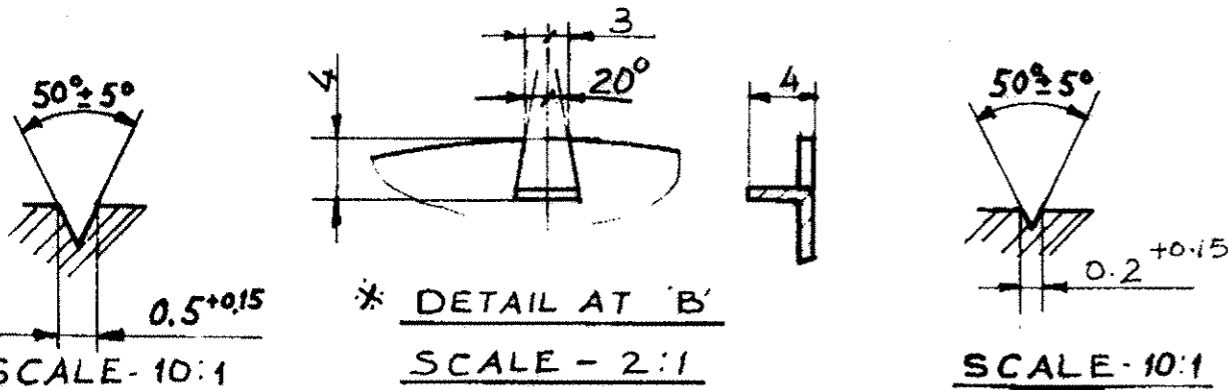
UPTO DATED AS PER OLD VETTED DRG

D:/KHAN/BMP-II(R)TG-55-135-5203-3



* APPLICABLE AFTER 200 SETS.

REVOLVED



THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

- MATERIAL : STEEL 20 GOST-1050-74 IT IS ALLOWED TO USE STEEL 10,15,25,30,35, INSTEAD OF MATERIAL.
- SHARP EDGES ARE NOT TOLERABLE.
- NUMBER OF EVEN DIVISIONS OF SCALE A - 100.
VALUE OF SMALLER DIVISIONS - 3.6°.
NUMBER OF EVEN DIVISIONS OF SCALE B - 60.
VALUE OF SMALLER DIVISIONS - 6°.
- LIMIT DEVIATIONS OF SIZE OF ANGLE BETWEEN ZERO DIVISION AND ANY OTHER - ±10'.
- ENGRAVING PROFILE AND TYPE OF INSCRIPTIONS-ACCORDING TO GOST 2930-62. PROFILE OF CIRCULAR MARK ON SCALE 'A' AND SMALLER DIVISIONS, 2 mm LONG, IS INDICATED Γ - Γ SECTION PROFILE OF GREATER DIVISIONS, 3 mm LONG, IS INDICATED IN 'B - B' SECTION.
- CONDITION OF SURFACE MARED WITH SIGN √ - ACCORDING TO RESPECTIVE TYPE-AND -SIZE RANGE OF MATERIAL.
- COATING:GLAZY ELECTROLESS OXIDIZING.
- PAINT SCALE SURFACE WITH WHITE ENAMEL ЛФ - 115 GOST 6465-76.
- COAT GRADUATION LINES, INSCRIPTIONS AND CIRCULAR MARK ON SCALE A WITH RED ENAMEL ЛФ - 115 GOST 6465-76 AND ON SCALE B, WITH BLACK ENAMEL ЛФ - 115 GOST-6465-76.

CHEMICAL COMPOSITION (%)

	20 GOST-1050-74	St 42 (Fe410) IS: 1079-88
CARBON	0.17 - 0.24	0.25 Max.
SILICON	0.17 - 0.37	----
MANGANESE	0.35 - 0.65	----
CHROMIUM	0.25 Max.	----
NICKEL	0.25 Max.	----
PHOSPHORUS	0.035 Max.	0.05 Max.
SULPHUR	0.040 Max.	0.05 Max.
COPPER	0.25 Max.	----

@ ALT MATL:St 42 TO IS:1079
@ ALT MATL AUTH IC (ICV)LETTER NO.CQA (ICV)2103/MTPF/QID-II DT-30-7-88

MECHANICAL PROPERTIES

TENSILE STENGTH, Kg/mm ²	42 Min.	410 - 490 MPa
YIELD POINT, Kg/mm ²	25 Min.	235 Min. MPa
ELONGATION, %	25 Min.	16 Min.
REDUCTION IN AREA,	55 Min.	----
HARDNESS, BHN	163 Max.	----



Rz 80 (✓)

संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	WEIGHT																														
							0.04 Kg																														
<p>सामान्य सहिष्णुता GENERAL TOLERANCE</p> <p>रेखिक परिमाण LINEAR DIMENSION</p> <table border="1"> <tr><td>0-6</td><td>±0.1</td></tr> <tr><td>6-30</td><td>±0.2</td></tr> <tr><td>30-120</td><td>±0.3</td></tr> <tr><td>120-315</td><td>±0.5</td></tr> <tr><td>315-1000</td><td>±0.8</td></tr> <tr><td>1000-2000</td><td>±1.2</td></tr> </table> <p>कोणिक परिमाण ANGULAR DIMENSION</p> <table border="1"> <tr><td>1-10</td><td>±1°</td></tr> <tr><td>10-50</td><td>±30'</td></tr> <tr><td>50-100</td><td>±20'</td></tr> <tr><td>>100</td><td>±10'</td></tr> </table> <p>मापोंक 'म्यू एम' में VALUE IN 'μm'</p> <table border="1"> <tr><td>-</td><td>>25</td></tr> <tr><td>▽</td><td>8-25</td></tr> <tr><td>▽▽</td><td>1.6-8</td></tr> <tr><td>▽▽▽</td><td>0.025-1.6</td></tr> <tr><td>▽▽▽▽</td><td><0.025</td></tr> </table>							0-6	±0.1	6-30	±0.2	30-120	±0.3	120-315	±0.5	315-1000	±0.8	1000-2000	±1.2	1-10	±1°	10-50	±30'	50-100	±20'	>100	±10'	-	>25	▽	8-25	▽▽	1.6-8	▽▽▽	0.025-1.6	▽▽▽▽	<0.025	
0-6	±0.1																																				
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<p>SCALE</p> <p>AZIMUTH INDICATOR HO-5203-66</p>																																					
<p>मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH</p>																																					
<p>कार्यालय OFFICE</p> <p>D.O.</p>																																					
<p>2008</p> <p>दिनांक DATE</p> <p>नाम NAME</p> <p>मापमान SCALE</p> <p>आरेखित DRAWN</p> <p>जाँचा CHECKED</p> <p>अनुमोदित APPROVED</p> <p>द्वारा बदला REPLACED BY</p> <p>हेतु बदला REPLACED FOR</p> <p>BTA-8</p> <p>आरेखण क्र. DRAWING NO.</p> <p>TG-55-135-5203-6</p>																																					

UPTO DATED AS PER OLD VETTED DRG

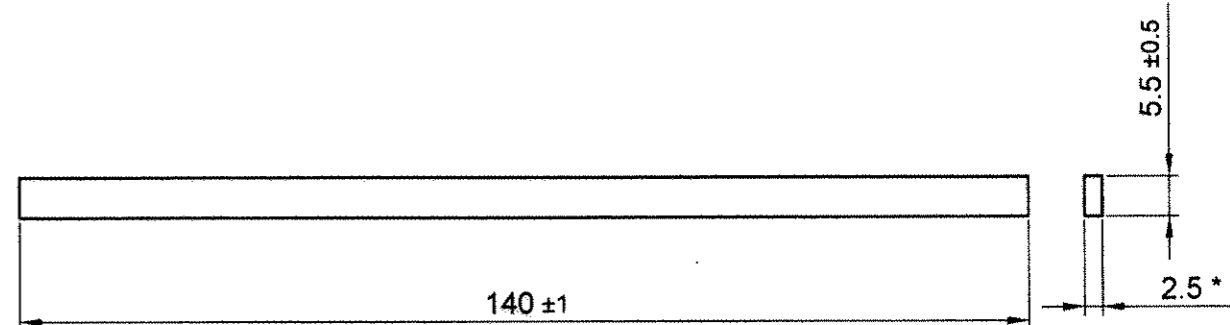
File Path: D:\KHAN\BMP-II\RG)TG-55-135-5203-6 6/23

TEST PARAMETER WITH SPECIFIED VALUE AS PER TY.005216-75 -GRADE 638,

GRADE OF RUBBER	TYPE OF RAW RUBBER	MODE OF VULCANIZATION AND THERMOSTATIC CONTROL(T)		ULTIMATE STRENGTH DURING BREA KAGE Kg/cm ² (Min)	RELATIVE ELONGATION DURING BREA KAGE % (min)	RELATIVE RESIDUAL DEFORMATION AFTER RUPTURE, % (MAX)	HARDNESS UNIT IN SHORE A WITHIN THE LIMIT	TEMPERATURE RANGE OF BRITTLNESS ° C NOT MORE THAN. Minus 50°C for 3 Minutes	AGEING CO-EFFICIENT AT 70°C 96 Hrs
		TEMPER- ATURE.°C	TIME (Min)						
638	BLEND OF NITRILE NEOPRENE	151±3	30±1.5	45	500	35	30-50	NO CRACKS	0.70
TEST METHOD	AS PER ASTM D 297			AS PER IS:3400PART-I	AS PER IS:3400 PART-I	AS PER IS:3400 PART-I	AS PER IS:3400 PART II	AS PER ASTM D 2137	AS PER IS:3400 PART I& IV

- NOTE: (I) TEST SUCH AS TENSILE STRENGTH, ELONGATION, RELATIVE RESIDUAL ELONGATION, HARDNESS, DENSITY, AGEING CO-EFFICIENT AND TESTS OF AGEING PROPERTIES, COMPRESSION SET, BRITTLNESS TEMP, & OZONE RESISTANCE SHALL BE CARRIED OUT ON TEST BUTTONS/TEST SLABS.
- (II) TESTS SUCH AS CHANGE OF MASS AND TESTS OF POLYMER CONTENT & ASH CONTENT SHALL BE CARRIED OUT ON THE ITEM.
- (III) TESTS OF AGEING PROPERTIES & OZONE RESISTANCE TEST ARE APPLICABLE TO PILOT SAMPLE AND FIRST BULK.
- (IV) TESTS OF POLYMER CONTENT, ASH CONTENT AND HYPALON COATING SHALL BE GOT CROSS CHECKED FROM IRMRA THANE OR ANY GOVT. APPROVED LAB.

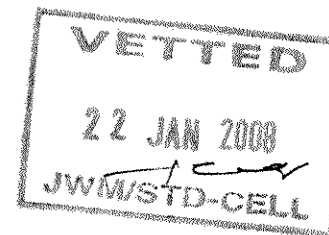
AGEING PROPERTIES AT 100°C+1°C FOR 72 Hrs			OZONE RESISTANCE TEST AT 100 PPHm 20% STRETCH, 40°C FOR 48 Hrs	ASH CONTENT	POLYMER CONTENT	COMPRESSION SET AT 100°C FOR 22 Hrs	CHANGE OF WEIGHT AT 100°C 24 hrs IN ASTM OIL	DENSITY g/cm ³ ±0.05	COEFFICIENT OF COLD RESISTANCE AS PER ELASTIC RESTORATION AFTER PRESSING (MIN)	
CHANGE OF TENSILE STRENGTH	CHANG IN ELONGATION (Max)	CHANGE IN HARD NESS							TEMPER- ATURE.°C	VALUE K V
±15%	(-40%)	(±)15%	NO CRACKS	3 TO 8%	50%(Min)	35%(Max)	28%	-	-	-
AS PER IS:3400 PART IV			AS PER IS:3400 PART XX	AS PER ASTM D297 TGA	AS PER ASTM D297	AS PER IS :3400 PART X	AS PER IS :3400 PT VI	AS PER IS:3400 PART I&IV		



MATERIAL:- SYNTHETIC RUBBER NITRILE GR BA 40 BS:2751-2001

PHYSICAL PROPERTY	BA 40	TEST METHOD IN BS 903 AND TYPE OF TEST PIECE WHERE APPROPRIATE
HARDNESS AFTER VULCANIZATION (IRHD)	40 ⁺⁵ ₋₄	PART A26, METHOD N, TWO PLYS, 6.30 mm AND 2.00 mm, WITH THE THICKER PLY ON TOP
DENSITY,	AGREED VALUE ±0.02	PART A1, METHOD A
TENSILE STRENGTH MPa Min	7.0	PART A2, TYPE 2 DUMB-BELLS
ELONGATION AT BREAK % Min	600	
COMPERSSION SET (%) Max	30	PART A6, TYPE B, TEST PIECE, LUBRICATED, 24 ^{±0} h AT 70±1°C
RESISTANCE TO LIQUIDS VOLUME CHANGE (%) AFTER IMMERSION IN LIQUID B	-0 +30	PART A16, 24 ^{±0} h AT 40±1°C
RESISTANCE TO LOW TEMPERATURE IN °C AT WHICH THE STIFFNESS SHALL NOT EXCEED 70 70 MPa	-30	PART A13, USING ETHYL ALCOHOL/ CO ₂ COOLING MEDIUM
RESISTANCE TO ACCELERATED AGEING		PART A 19, AIR-OVEN METHOD A, 168±2h, 70±1°C
CHANGE IN HARDNESS DEGRESS (IRHD)	-0 +10	PART A 26, METHOD N, MEASUREMENT BEFORE AND AFTER AGEING ON THE SAME 2 PLYS EACH 2.00 mm THICK
MAXIMUM CHANGE IN TENSILE STRENGTH (% OF ORIGINAL VALUE)	-10	
MAXIMUM CHANGE IN ELONGATION AT BREAK (% OF ORIGINAL VALUE)	-35	PART A 2, TYPE 2 DUMB - BELLS
ADHESION TO & CORROSION OF METALS 168 HRS AT 70°C	THERE SHALL BE NO CORROSION OR PITTING OF THE METALS & THE VULCANIZATES SHALL NOT ADHERE TO THE METAL SURFACES OR SHOW ANY SIGN OF LIQUID EXUDATION. DISCOLORATION OF THE METAL SURFACES SHALL NOT BE CONSIDERED CAUSE FOR REJECTION.	PART A37, USING CARBON STEEL AND COPPER, 168±2 h, 70±1°C

- * 1. MATERIAL: PLATE 2.54311-2.5/ RUBBER 7-638-TY.005216-75
- 2. TEARS AND CUTS ARE NOT TOLERABLE.
- * SIZE FOR REFERENCE.



@ALT MATL: BA-40 BS:2751-82 OR C-40 BS:2752-82
@ALT MATL AUTH, CI(ICV) LETTER NO.02103/
CQA(ICV) MTPF DT-19-1-88

संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाणु DIMENSIONS	अभ्यक्ति REMARKS	WEIGHT																																								
							0.0035 Kg																																								
* TEST PARAMETER WITH SPECIFIED VALUE AS PER TY.005216-75 - ADDED																																															
AS PER NO QA/RUBBER/CQA(ICV)005																																															
<table border="1"> <thead> <tr> <th>कोणिक परिमाण ANGLUAR DIMENSION</th> <th>संख्या NO.OFF</th> <th>संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART</th> <th>सूचक INDEX</th> <th>संशोधन ALTERATION</th> <th>2008</th> <th>दिनांक DATE</th> <th>नाम NAME</th> </tr> </thead> <tbody> <tr> <td>1-10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10-50</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>50-100</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>> 100</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>								कोणिक परिमाण ANGLUAR DIMENSION	संख्या NO.OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME	1-10								10-50								50-100								> 100							
कोणिक परिमाण ANGLUAR DIMENSION	संख्या NO.OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME																																								
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<p>GASKET</p> <p>AZIMUTH INDICATOR HO-5203-66</p>				<p>मापमान SCALE</p> <p>आरेखित DRAWN</p> <p>जाँचा CHECKED</p> <p>अनुमोदित APPROVED</p>		<p>22.01.08</p> <p>Y.D.K.</p> <p>AKN</p>																																									
<p>मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ</p> <p>MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH</p>				<p>कार्यालय OFFICE</p> <p>D.O.</p>		<p>द्वारा बदला REPLACED BY</p> <p>हेतु बदला REPLACED FOR</p> <p>BTA-7</p> <p>आरेखण क्र. DRAWING NO. 7/23</p> <p>TG-55-135-5203-7</p>																																									

THIS DRG HAS BEEN PREPARED BASED AHSP DRG.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्व अधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

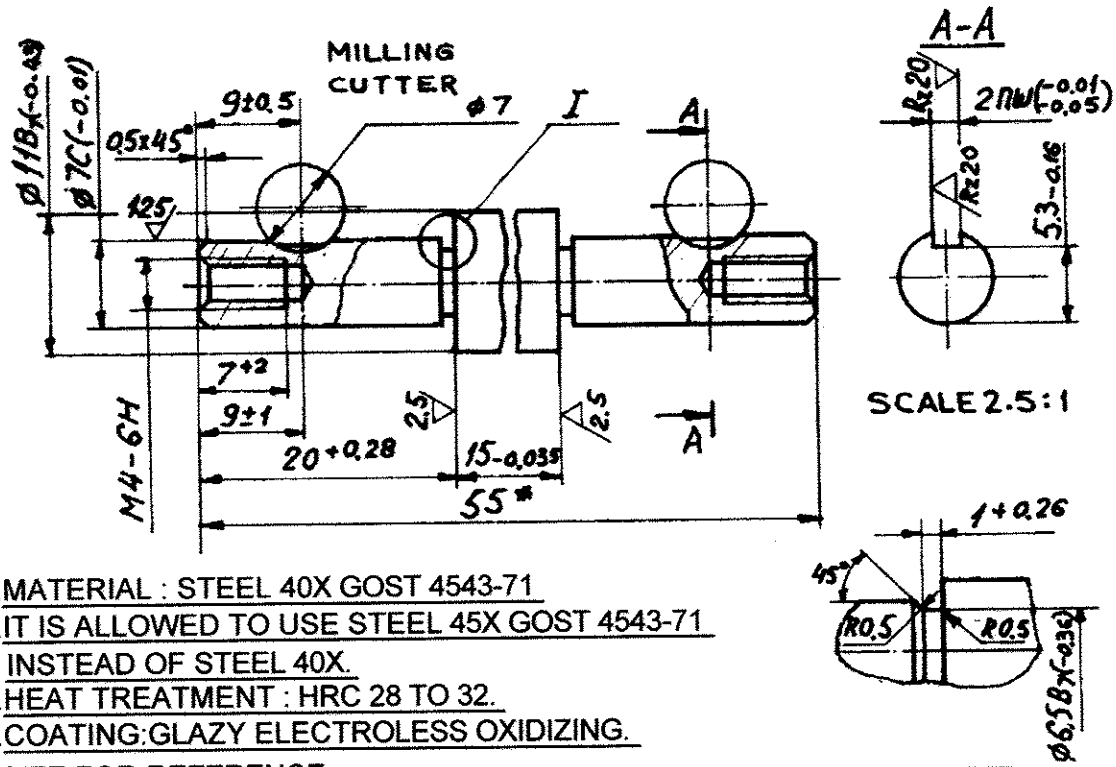
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मूलमाप व अन्वयोजन NOMINAL SIZE & FIT

विचलन DEVIATION

UPTO DATED AS PER OLD VETTED DRG

File Path: D:\KHAN\BMP-II\RG-TG-55-135-5203-7 7/23



1. MATERIAL : STEEL 40X GOST 4543-71
2. IT IS ALLOWED TO USE STEEL 45X GOST 4543-71 INSTEAD OF STEEL 40X.
3. HEAT TREATMENT : HRC 28 TO 32.
4. COATING: GLAZY ELECTROLESS OXIDIZING.

*SIZE FOR REFERENCE.

CHEMICAL COMPOSITION (%)

	40 X GOST. 4543-1971
CARBON	0.36 - 0.44
SILICON	0.17 - 0.37
MANGANESE	0.50 - 0.80
CHROMIUM	0.80 - 1.10
NICKEL	0.30 Max.
SULPHUR	0.035 Max.
PHOSPHORUS	0.035 Max.
COPPER	0.30 Max.

MECHANICAL PROPERTIES
ULTIMATE STRENGTH, Kg/mm ² 100 Min.
YIELD STRESS, Kg/mm ² 80 Min.
ELONGATION, % 10 Min.
REDUCTION IN AREA, % 45 Min.
IMPACT STRENGTH, Kg.m/mm ² 6.0 Min.
HARDNESS, BHN 217 Max.

VETTED
22 JAN 2008
JWM/STD-CELL

THIS DRG HAS BEEN PREPARED BASED ON
A.H.S.P. DRG.

0.017 Kg

संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	WEIGHT
	सामान्य सहिष्णुता GENERAL TOLERANCE						
	रेखिक परिमाण LINEAR DIMENSION						
	0-6						
	6-30						
	30-120						
	120-315						
	315-1000						
	1000-2000						
	कोणिक परिमाण ANGULAR DIMENSION						
	1-10						
	10-50						
	50-100						
	>100						
	मापक 'म्यू एम' में VALUE IN 'um'						
	~						
	∇						
	∇∇						
	∇∇∇						
	∇∇∇∇						
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विचलन DEVIATION	SHAFT AZIMUTH INDICATOR HO-5203-66		संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION
							2008
							दिनांक DATE
							नाम NAME
							मापमान SCALE
							आरेखित DRAWN
							22.01.08 Y.D.K.
							जाँचा CHECKED
							22/1
							अनुमोदित APPROVED
							A.K.N.
							द्वारा बदला REPLACED BY
							हेतु बदला REPLACED FOR
							BTA-8
							आरेखण क्र. DRAWING NO. 8/23
							D.O. TG-55-135-5203-8
							कार्यालय OFFICE
							D.O.

UPTO DATED AS PER OLD VETTED DRG

File Path: D:/KHAN/BMP-II/(R)TG-55-135-5203-8 8/23

TG-55-135-5203-20

TG-55-135-2204

TG-55-135-5203-30

TG-55-135-5203-1

TG-55-135-5203-2

TG-55-135-5203-3

TG-55-135-5203-40

TG-55-135-1491

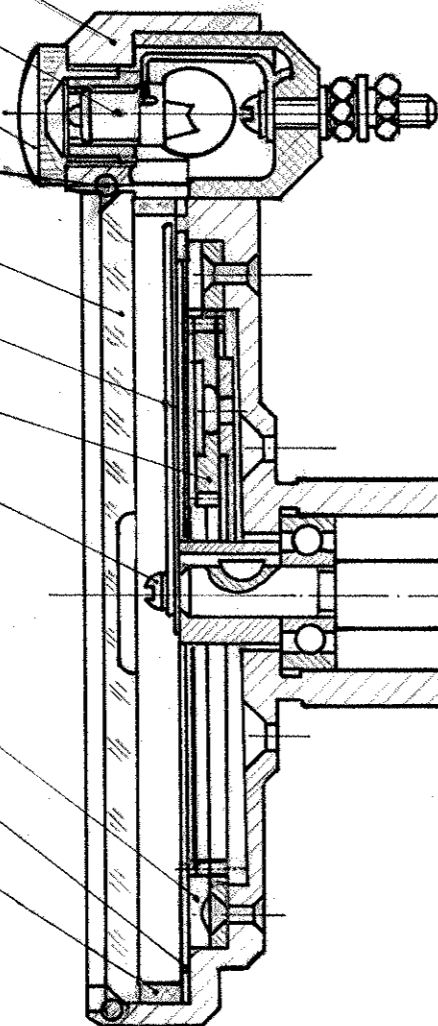
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TG-6402-135-260

TG-55-135-5203-50

TG-55-135-5203-6

TG-55-135-5203-7

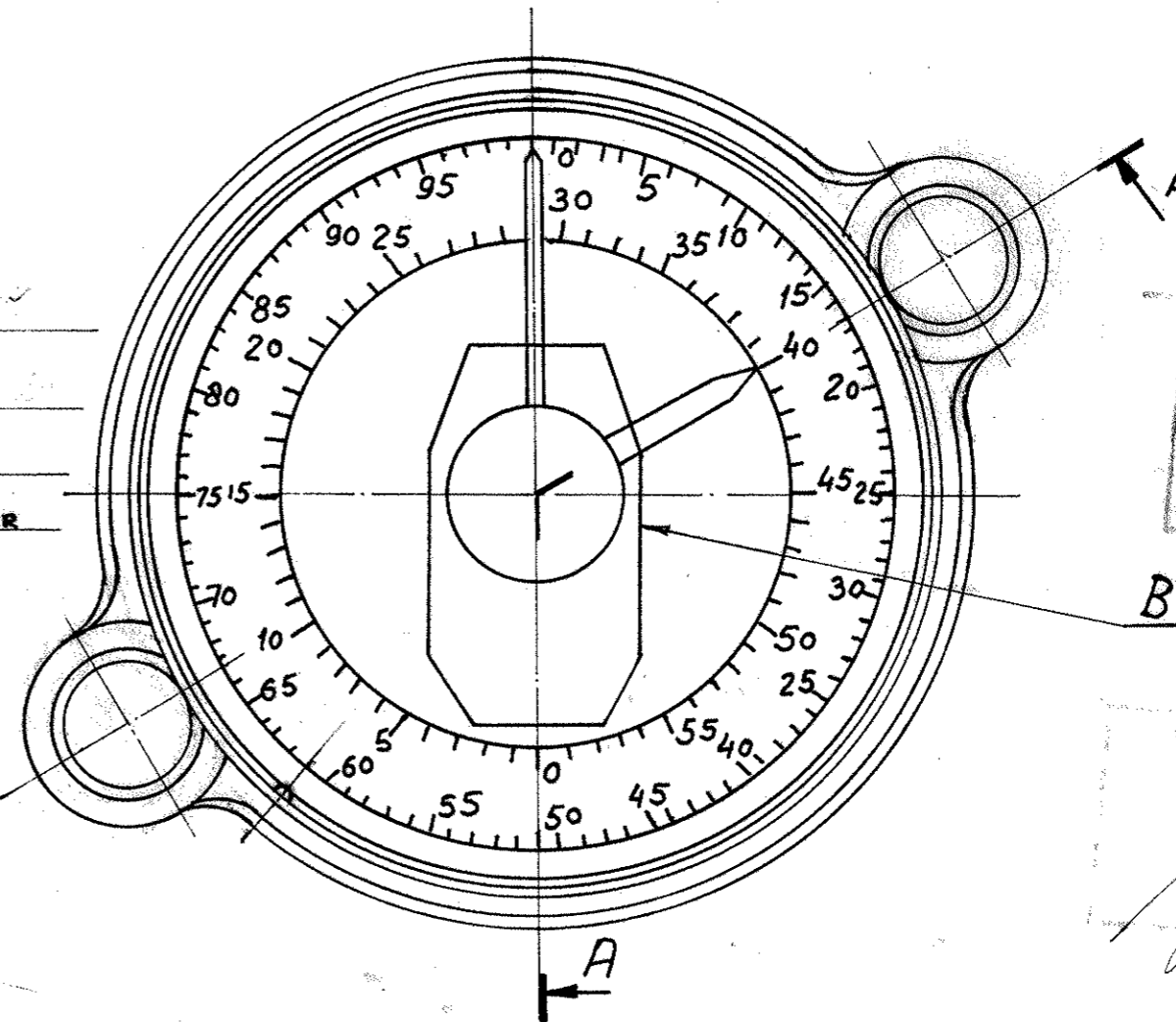


TG-55-135-13943

TG-55-135-24071

TG-55-135-5203-8

TG-8338-AZIMUTH INDICATOR



VETTED
22 JAN 2008
JVM/STD-CELL

1. INSTALL GLASS (REF. NO TG-55-135-5203-2) SO THAT LONGITUDINAL AXIS OF CONTOUR B SHOULD BE ALIGNED WITH ZERO DIVISIONS OF SCALES.
2. IN CASE OF DIFFICULTY IN INSTALLING RING (REF. NO TG-55-135-5203-1), GASKETS (REF. NO TG-55-135-5203-7) MAY BE TRIMMED.
3. WHEN IN MOTION, POINTER SHOULD NOT TOUCH GLASS (REF. NO TG-55-135-5203-2) AND SCALS (REF. NO TG-55-135-5203-6). POINTER MAY BE BENT IN SITU.
4. FINALLY ATTACH POINTER AFTER INSTALLING AZIMUTH INDICATOR ON VEHICLE.
5. CHECK LAMPS FOR SERVICEABILITY. FOR ENSURING VOLTAGE FEED TO LAMP, CONTACT MAY BE BENT.
6. CLEARANCE OF ABOUT 30 MM BETWEEN GASKETS (REF. NO TG-55-135-5203-7) SHOULD BE IN AREA OF ILLUMINATION LAMPS.
7. ~~STICK GASKETS (REF. NO TG-55-135-5203-7) TO SCALS (REF. NO TG-55-135-5203-6) WITH USE OF CEMENT NO. 88 HR ACCORDING TO TV 38-105540-72.~~

THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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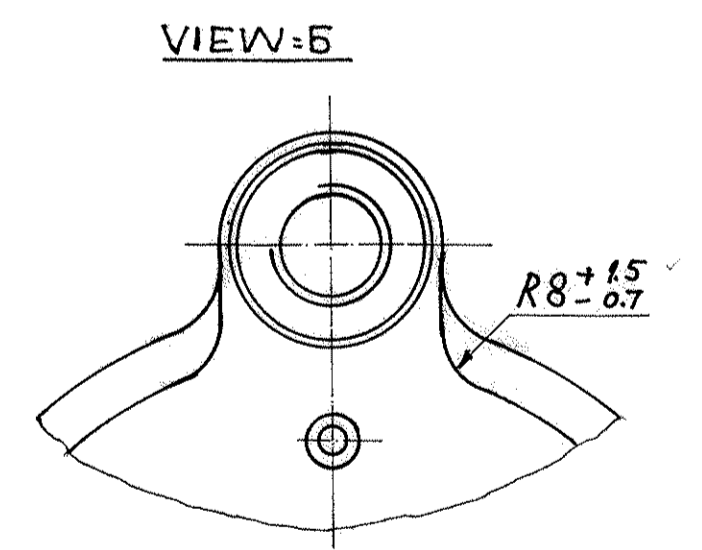
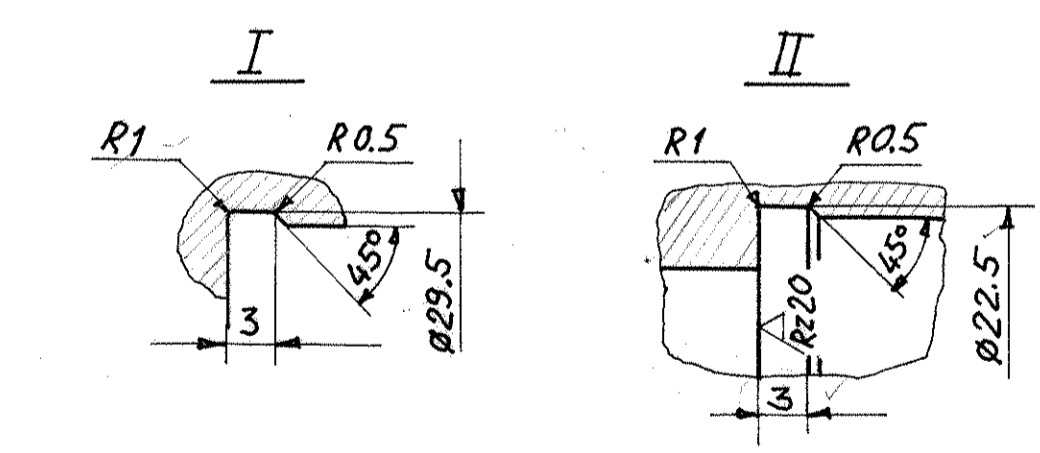
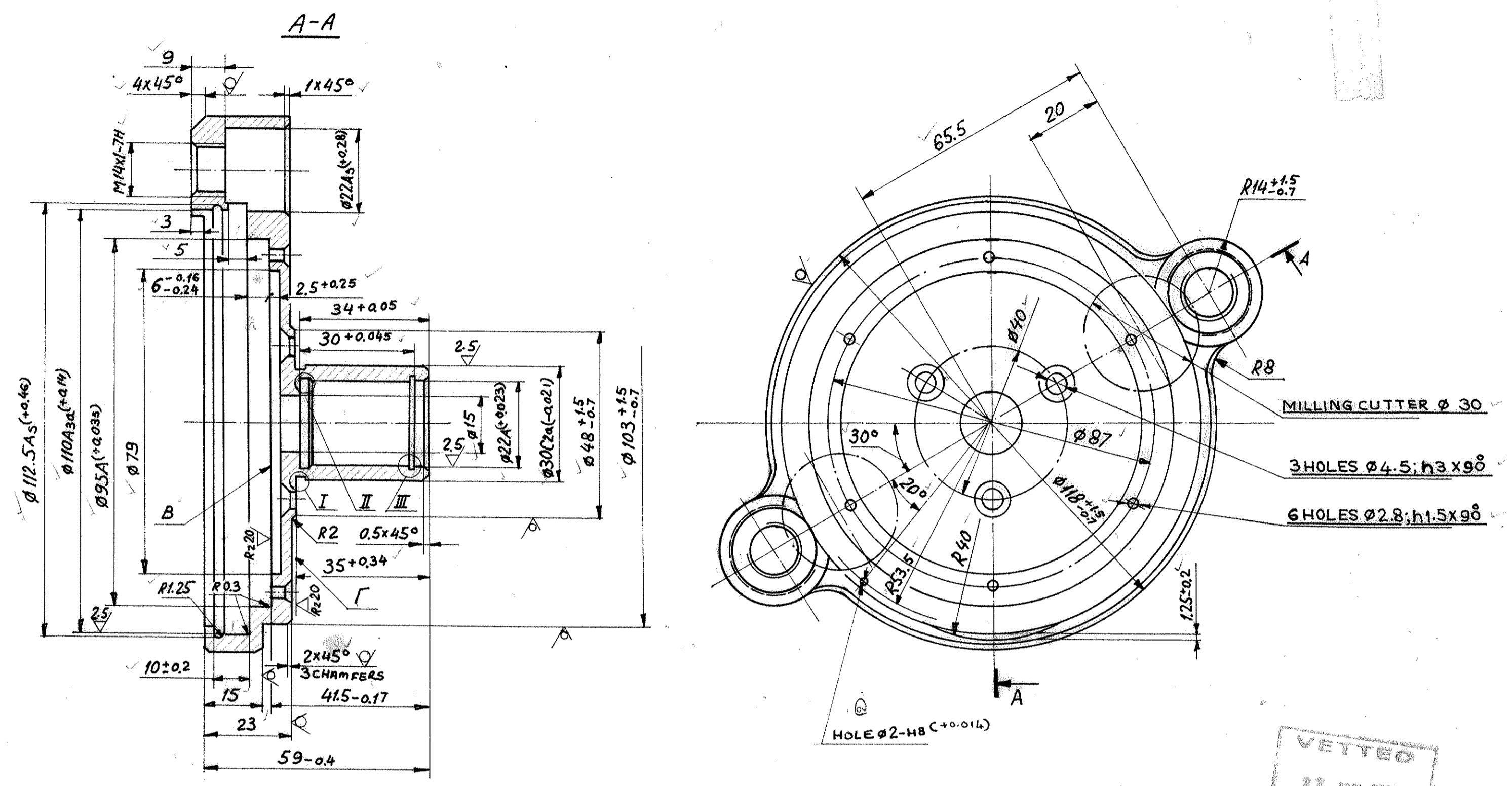
मूलमाप व अन्वायोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE		@	Note Deleted Ref. CEA-ICV Secundum 31.12.90		
	रेखिक परिमाण LINEAR DIMENSION				Letter No. CEA-ICV/2103/MTPF 1B-9	22.11.90
	0 - 6					± 0.1
	6 - 30					± 0.2
	30 - 120					± 0.3
	120 - 315					± 0.5
	315 - 1000					± 0.8
	1000 - 2000					± 1.2
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME
1 - 10						± 1°
10 - 50						± 30'
50 - 100						± 20'
> 100						± 10'
मापक 'म्यू.एम.' में VALUE IN 'μm'						
▽						> 25
▽▽						8 - 25
▽▽▽						1.6 - 8
▽▽▽▽						0.025 - 1.6
▽▽▽▽▽						< 0.025
AZIMUTH INDICATOR					मापमान SCALE	आरेखित DRAWN
HO-5203 - 66					1:1	-10-87
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH					कार्यालय OFFICE	द्वारा बदला REPLACED BY
					W.M.T.	हेतु बदला REPLACED FOR
आरेखण क्र. DRAWING NO. TG-55-135-5203-10					C2/221	

- *1. MATERIAL : ALUMINUM ALLOY A1 GOST 4784-74.
HARDNESS - NOT LESS THAN HB-90.
- 2. UNSPECIFIED LIMIT DEVIATIONS OF SIZES:
FOR HOLES - ACCORDING TO A7;
FOR SHAFTS - ACCORDING TO B7;
OTHERS - ACCORDING TO CM7.
- 3. OFFSET OF AXES OF HOLES $\phi 2.8$ AND $\phi 4.5$ FROM NOMINAL POSITION SHOULD NOT EXCEED 0.2 mm.
- 4. UNSPECIFIED RADIUS OF ROUNDING OFF - 1 mm.
- 5. RUN-OUT OF SURFACE $\phi 95$, $\phi 110$, $\phi 30$, PLAY OF END FACES B AND Γ WITH RESPECT TO SURFACE $\phi 22$ A SHOULD NOT EXCEED 0.05 mm.
- 6. COAT OUTER SURFACE, EXCEPT FOR LOCATING ONES, WITH PRIMER $\phi 7-03$ * GOST 9109-76. AND PAINT THEM WITH WHITE ENAMEL ПЭ-115 GOST 6465-76.
- 7. SURFACE MARKED ∇ AS CAST SURFACE.

ALTERNATE MATERIAL
AL1 GOST-2685-75



VETTED
22 JUN 76
WARRANTY CELL

VETTED FOR MATERIAL ONLY

RR PARWATKAR
550 II

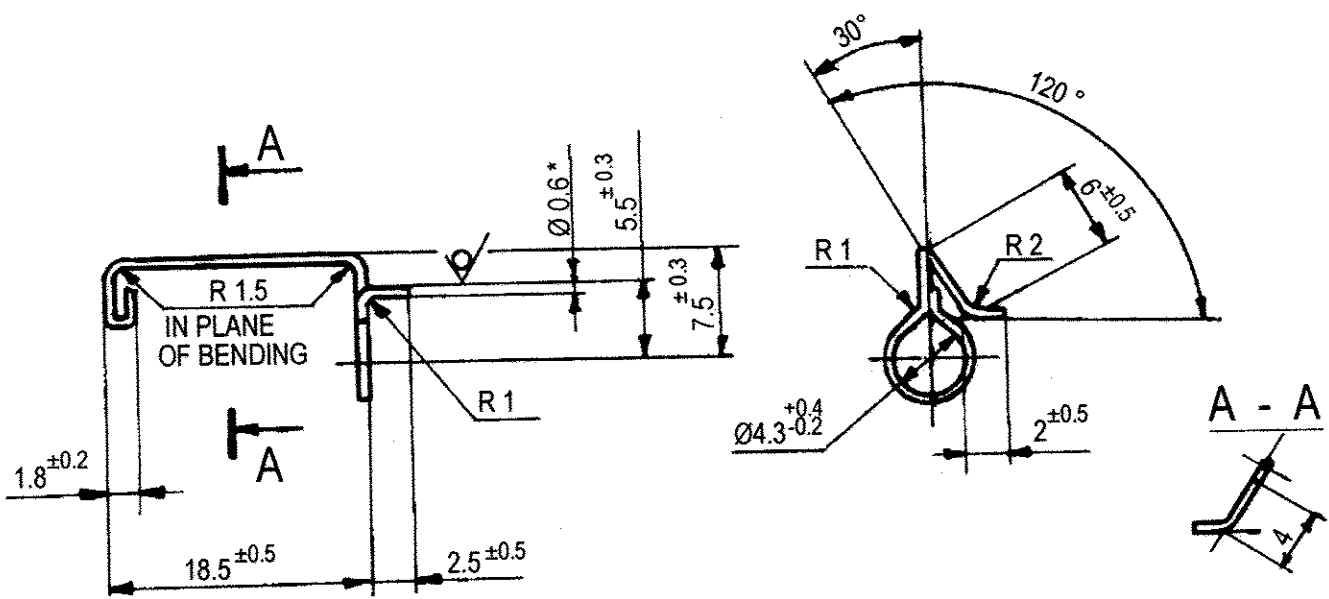
MATERIAL :
CHEMICAL COMPOSITION IN %

C	3.8 - 4.8
Mg	0.4 - 0.8
BASE	
Fe	0.7
Zn	0.2
PHYSICAL PROPERTIES	
TEMPERATURE	
YIELD STRENGTH	
IMPACT	
ELONGATION	
REDUCTION OF AREA	
HARDNESS	90 HB

This drg. has been prepared based on AHSP dog.

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वतन्त्र अधिकार भारत सरकार, रक्षा मन्त्रालय की भारतीय आयुध निर्माणागियों के पास है। भारतीय आयुध निर्माणागियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
THE COPYRIGHT OF THESE DRAWINGS AND ALL ATTACHMENTS THERETO BELONGS TO THE INDIAN ORDNANCE FACTORIES, MINISTRY OF DEFENCE, GOVT. OF INDIA. THEY SHOULD NOT BE COPIED, REPRODUCED IN ANY WAY OR THE INFORMATION CONTAINED THEREIN MADE AVAILABLE TO UN-AUTHORISED PERSONS WITHOUT THE WRITTEN PERMISSION OF THE DIRECTOR GENERAL OF ORDNANCE FACTORIES.

संख्या	विवरण	पुंजा क्र.	पदार्थ	मानक	परिमाण	MASS
NO. OFF.	DESCRIPTION	PART NO.	MATERIAL	STANDARD	DIMENSIONS	0.276 kg.
सामान्य सहिष्णुता GENERAL TOLERANCE		@		SIZE OF THE HOLE $\phi 2.48 (+0.014)$		
रेखक परिमाण LINEAR DIMENSION				ADDED. AUTH. I.C.V. LETTER NO. CPA-		
0 - 6				ICV/6696/III/ID-II DT-1-2-90		28296
6 - 30						
30 - 120						
120 - 315						
315 - 1000						
1000 - 2000						
कोणिक परिमाण ANGULAR DIMENSION		मूल्या	संबंधित पुंजाका आरेखण क्र.	सूचक	संशोधन	दिनांक
		NO. OFF.	ORG. NO. OF ASSOCIATED PART	INDEX	ALTERATION	DATE
1 - 10						
10 - 50						
50 - 100						
> 100						
मापों का 'म्यू एम.' में VALUE IN 'µm'						
▽		1.6 - 8				
▽▽		0.025 - 1.6				
▽▽▽		< 0.025				
FIRST ANGLE PROJECTION		CASING (MACHINED) AZIMUTH INDICATOR HO-5203-66				मापमान SCALE
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH				आरेखित DRAWN
		कार्यालय OFFICE				1:1
		हेतु बदला REPLACED FOR				987 Cm
		W.M.T.				जांचा CHECKED
		DRAWING NO.				14.10
		TG-55-135-5203-11				
		C2/222				



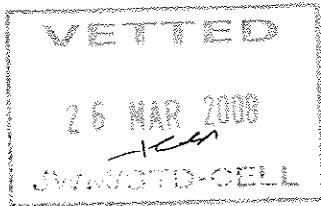
1. MATERIAL: WIRE III - 0.6 GOST-9389-75
 2. IT IS ALLOWED TO USE WIRE II - 0.6 GOST 9389-75 INSTEAD OF WIRE III - 0.6
 3. UNSPECIFIED RADII OF BENDING - 0.5 mm.
 4. COATING: GLAZY NICKEL PLATING, 24 MICRONS THICK.
- *SIZE FOR REFERENCE.

CHEMICAL COMPOSITION (%)

	KT-2 GOST, WIRE GOST- 9389-1975
CARBON	0.86 - 0.91
SILICON	0.17 - 0.37
MANGANESE	0.20 - 0.40
CHROMIUM	0.05 Max.
NICKEL	0.05 Max.
SULPHUR	0.020 Max.
PHOSPHORUS	0.020 Max.
COPPER	0.010 Max.

MECHANICAL PROPERTIES

TENSILE STRENGTH, Kg/mm ²
170 - 220



THIS DRG HAS BEEN PRAPARED BASED ON AHSP DRG. R280 ✓(✓)

संख्या NO. OFF		विवरण DESCRIPTION		पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
					WIRE III - 0.6 GOST - 9389-75			WT-0.0006 Kg
सामान्य सहिष्णुता GENERAL TOLERANCE								
रेखिक परिमाण LINEAR DIMENSION								
0-6	±0.1							
6-30	±0.2							
30-120	±0.3							
120-315	±0.5							
315-1000	±0.8							
1000-2000	±1.2							
कोणिक परिमाण ANGULAR DIMENSION		संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008		दिनांक DATE
1-10	±1'							नाम NAME
10-50	±30'							मापमान SCALE
50-100	±20'							आरेखित DRAWN
>100	±10'							जाँचा CHECKED
मापांक 'म्यू एम' में VALUE IN 'μm'								अनुमोदित APPROVED
~	>25							द्वारा बदला REPLACED BY
∩	8-25							देतु बदला REPLACED FOR
∩∩	1.5-8							आरेखण क्र. DRAWING NO.
∩∩∩	0.025-1.8							
∩∩∩∩	<0.025							
मूलमाप व अन्दायोजन NOMINAL SIZE & FIT	विचलन DEVIATION	CONTACT		AZIMUTH INDICATOR-HO-5203-66		कार्यालय OFFICE		BTA-12
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		D.O.		TG-55-135-5203-12		

UPDATED AS PER OLD VETTED DRG.

D:KHAN/BMP-III(R)TG-55-135-5203-12 12/23

272 - 323

CHEMICAL COMPOSITION (%)

40Cr1Mo28 1514367-67
 CARBON - 0.35-0.45
 SILICON - 0.10-0.35
 MANGANESE - 0.50-0.80
 CHROMIUM - 0.90-1.20
 NICKEL - 0.30 MAX.
 SULPHUR - 0.050 MAX.
 PHOSPHORUS - 0.050 MAX.
 COPPER - 0.30 MAX.
 MOLYBDENUM - 0.25-0.35

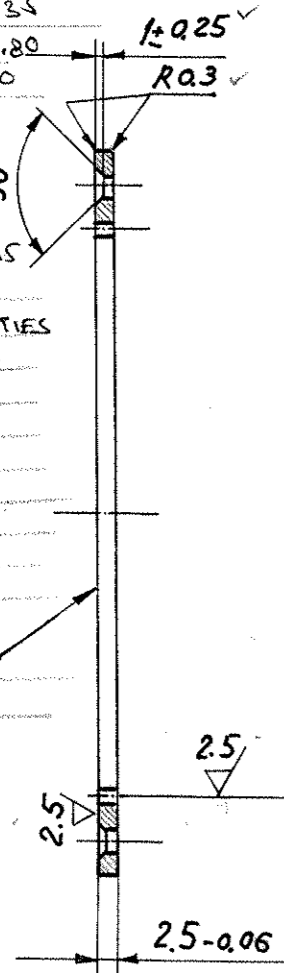
MECHANICAL PROPERTIES

TENSILE STRENGTH

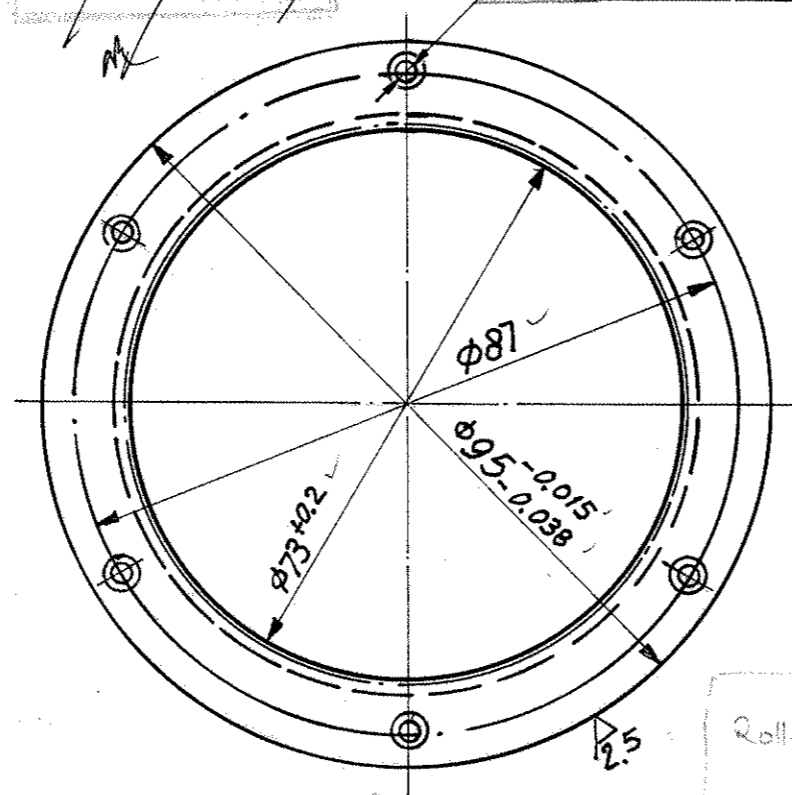
Kgf/mm²
 80-95
 ELONGATION, %
 18 MIN.
 IMPACT 120° VALUE,
 Kgf/m 5.5 MIN.

HARDNESS, HB

229-277



SIX HOLES Ø 2.8 ± 0.25
 EQUALLY SPACED
 OVER CIRCUMFERENCE



- MATERIAL : STEEL 40X GOST 4543-71. ALTERNATE MATERIAL - 40Cr1Mo28 TO HARDNESS: HRC 28 TO 35. - IS 4367-67
- OFFSET OF AXES OF HOLES Ø 2.8 FROM TRUE POSITION SHOULD NOT EXCEED 0.2 mm.
- NONFLATNESS OF SURFACE 'A' SHOULD NOT EXCEED 0.1 mm.
- COATING: GLAZY ELECTROLESS OXIDIZING.
- IT IS ALLOWED TO USE STEEL 45X GOST 4543-71 INSTEAD OF STEEL 40X.

THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

VETTED FOR MATERIAL ONLY

R.R. PARWATKAR
 SS011

VETTED
 22 JAN 2008
 JWM/STU-CELL

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
 NOMINAL SIZE & FIT

विचलन
 DEVIATION

FIRST ANGLE
 PROJECTION

MODULE	m	1.25
NUMBER OF TEETH	Z	59
BASICRACK	ANGLE OF PROFILE	α _a 20°
	TOOTH DEPTH COEFFICIENT	f 0.8
ADDENDUM MODIFICATION COEFFICIENT	ξ	0.681
DEGREE OF ACCURACY ACCORDING TO GOST 1643-72		7 A
BASE TANGENT LENGTH	W	29.29 ^{+0.049} / _{+0.083}
RUN-OUT OF TOOTHING AGAINST PIN WITH RESPECT TO SURFACE Ø95	F _r	0.038
VARIATION IN BASE TANGENT LENGTH	V _W	0.024
P.C.D.		73.75
MAJOR Ø		77.95
WHOLE DEPTH		2.25
DIMN. OVER ROLLER	I: 73.12, II: 73.03	

MATERIAL - 40X GOST 4543-71

CHEMICAL COMPOSITION IN %

C	0.36-0.44	Cu	0.3
Mn	0.50-0.8	Al	
Si	0.17-0.37	Fa	
S	0.005	Zn	
P	0.005	Sn	
Cr	0.8-1.10	As	
Ni		Pb	
Ti		B	

PHYSICAL PROPERTY :-

TENSILE STRENGTH	100	Kgf/mm ²
YIELD STRENGTH	80	Kgf/mm ²
IMPACT STRENGTH U.T.S.	60	Kgf/mm ²
RELATIVE ELONGATION	40%	
REDUCTION OF AREA	45%	
HARDNESS		

ALT. MATL. :-
 40Cr1Mo28 OR
 40Cr1Mo28 15:5517
 OR
 EN19 / BS 970

Roller φ 2.2
 L = 72.30405867
 D = 72.39254814
 Roller φ 2.017
 72.23767898
 72.35604648
 RC - 28-35

Rz80 (✓)

संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE				@	ALT. Matl. added Auth. 8.4.88
	रेखिक परिमाण LINEAR DIMENSION					CI (ICV) Letter NO. CQA (ICV) / 2103/ MTPF/ID-II dt. 23-3-88
	कोणिक परिमाण ANGULAR DIMENSION				B	Alternate Material 40Cr1Mo28 To IS-4367-67 Added Auth. 14/02/2004
	मापों का म्य. एम. में VALUE IN 'μm'					QAR/ICV/letter No. 15815/ICV/MS 002354/MPF KCL/ID dt 25 Jan 2004
	संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION		दिनांक DATE
						नाम NAME
						मापमान SCALE
						आरेखित DRAWN
						जांचा CHECKED
						अनुमोदित APPROVED
						द्वारा बदला REPLACED FOR
						आरेखण क्र. DRAWING NO
						कार्यालय OFFICE
						कार्यालय OFFICE

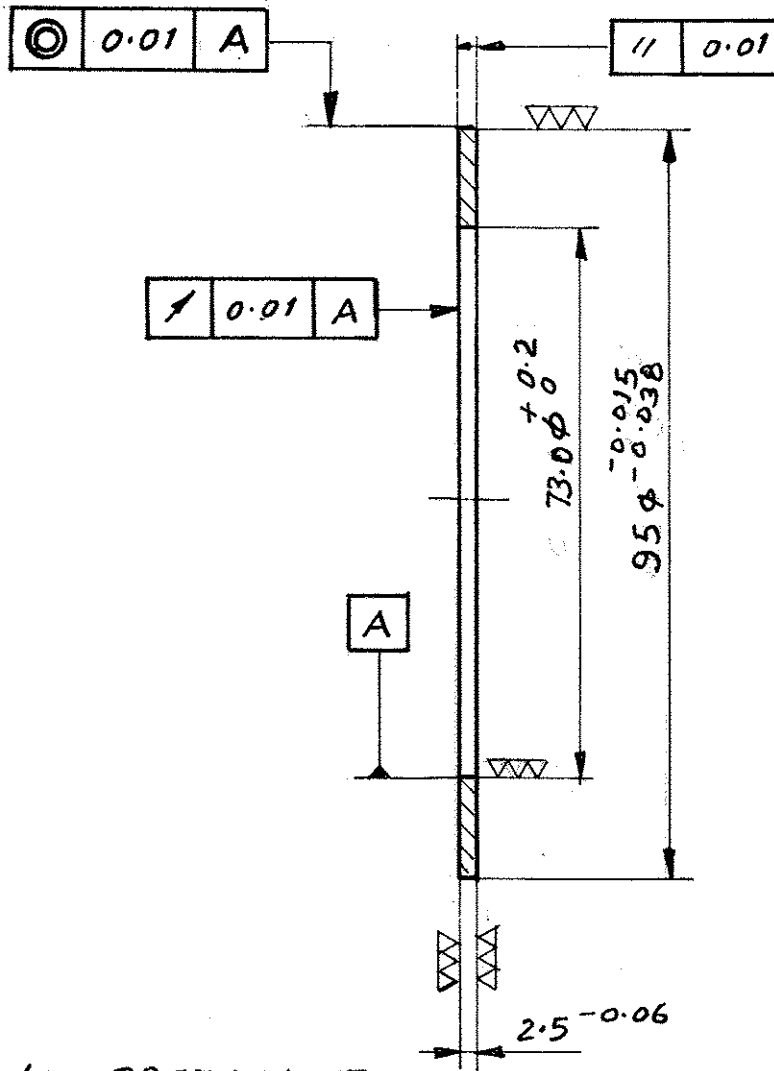
GEAR
 AZIMUTH INDICATOR HO-5203-66

मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ
 MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH

कार्यालय
 OFFICE
 W.M.T.
 13/23
 14.10
 13/23
 13/23
 13/23

Mass. 0.056kg

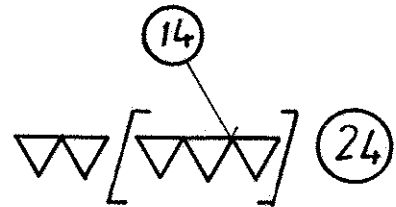
C2/224



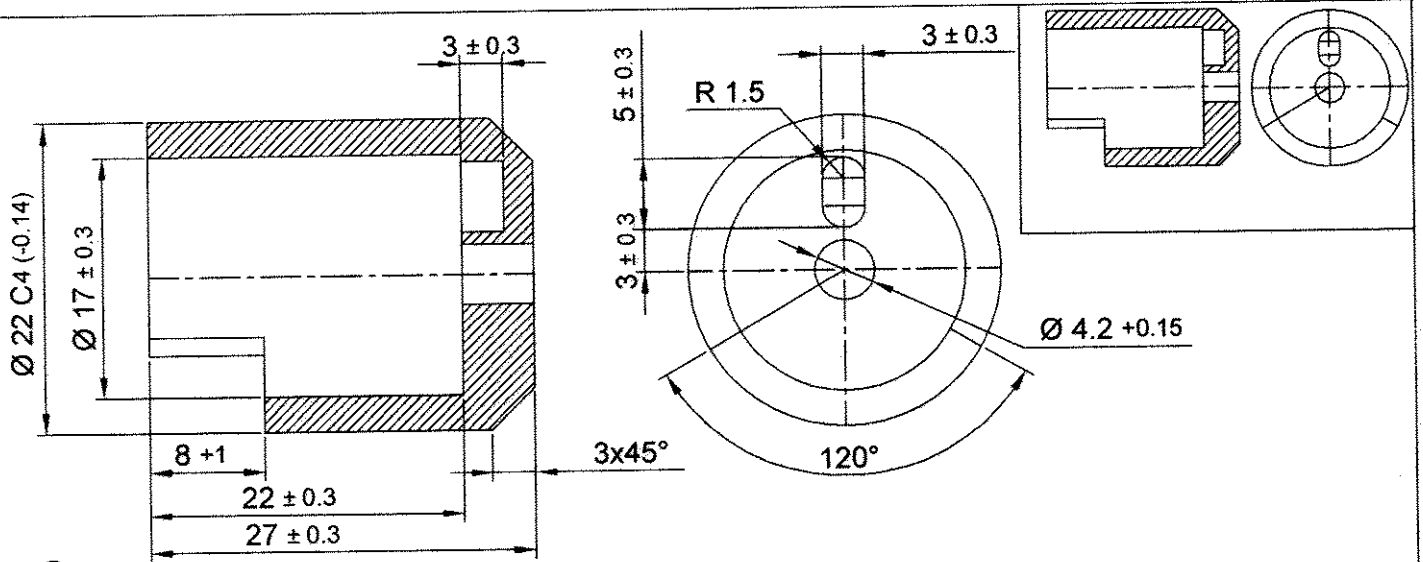
31 NOV 2004
Elit

RC:- 28-35

* MATL:- 40x GOST 4543-71
40 cr 4 OR
40 cr 1 MO 28 IS: 5517
OR
EN 19 BS 970



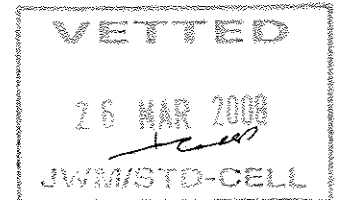
BLANK		*					
सह्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	
सामान्य सहिष्णुता GENERAL TOLERANCE							
रेखिक परिमाण LINEAR DIMENSION							
0 - 6 ± 0.1							
6 - 30 ± 0.2							
30 - 120 ± 0.3							
120 - 315 ± 0.5							
315 - 1000 ± 0.8							
1000 - 2000 ± 1.2							
कोणिक परिमाण ANGULAR DIMENSION		सह्या NO. OFF.	संबंधित पुर्जाका आरेखण क्र. DRG NO OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME
1 - 10 ± 10							
10 - 50 ± 30							
50 - 100 ± 20							
> 100 ± 10							
मापक म्य एम. मे VALUE IN 'μm'		BLANK FOR:- GEAR [TG-55-135-5203-13 AZIMUTH INDICATOR HO-5203-66				मापमान SCALE	अदरित DRAWN
~ > 25						1:1	जांचा CHECKED
▽ 8 - 25							अनुमोदित APPROVED
▽ 16 - 8							
▽ 0.025 - 1.6		द्वारा बदला REPLACED BY				द्वारा बदला REPLACED FOR	
▽ 0.025		कार्यालय OFFICE				आरेखण क्र. DRAWING NO	
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विचलन DEVIATION	मशीनी औजार आदिरूप फेक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH				WMT TG-55-135-5203-13-108.23	



- ① MATERIAL : BLACK PHENOPLAST Y1-301-07 GOST 5689-73.
 2. IT IS ALLOWED TO USE ELECTRO TECHNICAL HARD RUBBER GOST 2748-53.
 ELECTRO TECHNICAL TEXTOLITE GOST 5385-74 INSTEAD OF BLACK PHENOPLAST Y1-301-07.
 3. UNSPECIFIED RADII OF ROUNDING - OFF - 0.5 mm

MATERIAL PROPERTIES

IMPACT STRENGTH ON NOTCHED SPECIMENS	4.0 Kgf, cm/cm ²
ULTIMATE COMPRESSION STRESS	1000 Kgf/cm ²
ULTIMATE TENSILE STRESS	300 Kgf/cm ²
RELATIVE ELONGATION	0.4 %
MODULUS OF ELASTICITY	60.10 ³ Kgf/cm ²
HARDNESS	2500 Kgf/cm ²
DISSIPATION FACTOR AT 50 Hz	0.88
DISSIPATION FACTOR AT 10 ⁶ Hz	1.0
RESISTANCE TO OIL	0.03
SPECIFIC HEAT AT 20 TO 30°C	0.30 - 0.34 Kcal/kg.DEGREE
THERMAL CONDUCTIVITY AT 20 TO 30°C	0.18 - 0.20 Kcal/m.h DEGREE
COEFFICIENT OF LINER TH.EXP.	3.0 - 3.5 DEGREE.
OPERATION TEMPRATURE	FROM - 40 TO + 110 DEGREE/C.



ALT MATL: JSS:1097
 ALT MATL ADDED AUTH CI (ICV)
 LETTER DT-15-12-87

THIS DRG HAS BEEN PRAPARED BASED ON AHSP DRG. 0.63 (V)

WT-0.005 Kg

संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यन्तित REMARKS																																																																																																																																					
<table border="1"> <tr> <td>सामान्य सहिष्णुता GENERAL TOLERANCE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>रेखिक परिमाण LINEAR DIMENSION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0-6</td> <td>±0.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6-30</td> <td>±0.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>30-120</td> <td>±0.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>120-315</td> <td>±0.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>315-1000</td> <td>±0.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1000-2000</td> <td>±1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>कोणिक परिमाण ANGULAR DIMENSION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1-10</td> <td>±1°</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10-50</td> <td>±30'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>50-100</td> <td>±20'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>>100</td> <td>±10'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>मापक 'म्यू एम' में VALUE IN "um"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>~</td> <td>>25</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>∇</td> <td>8-25</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>∇∇</td> <td>1.6-8</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>∇∇∇</td> <td>0.025-1.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>∇∇∇∇</td> <td><0.025</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							सामान्य सहिष्णुता GENERAL TOLERANCE							रेखिक परिमाण LINEAR DIMENSION							0-6	±0.1						6-30	±0.2						30-120	±0.3						120-315	±0.5						315-1000	±0.8						1000-2000	±1.2						कोणिक परिमाण ANGULAR DIMENSION							1-10	±1°						10-50	±30'						50-100	±20'						>100	±10'						मापक 'म्यू एम' में VALUE IN "um"							~	>25						∇	8-25						∇∇	1.6-8						∇∇∇	0.025-1.6						∇∇∇∇	<0.025					
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10-50	±30'																																																																																																																																										
50-100	±20'																																																																																																																																										
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∇∇∇∇	<0.025																																																																																																																																										
संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME																																																																																																																																					
BUSHING				मापमान SCALE	आरेखित DRAWN	25.02.08																																																																																																																																					
AZIMUTH INDICATOR-HO-5203-66				NTS	जाँचा CHECKED	Y.D.K.																																																																																																																																					
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH				अनुमोदित APPROVED	3/0/3	A.K.N.																																																																																																																																					
कार्यालय OFFICE				द्वारा बदला REPLACED BY	हेतु बदला REPLACED FOR	BTA-14																																																																																																																																					
D.O.				आरेखण क्र. DRAWING NO	14/23																																																																																																																																						
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT				TG-55-135-5203-14																																																																																																																																							
विचलन DEVIATION																																																																																																																																											

UPDATED AS PER OLD VETTED DRG.

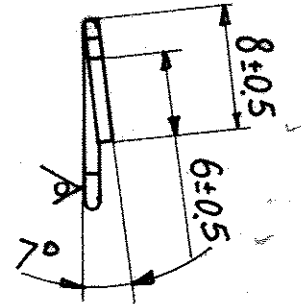
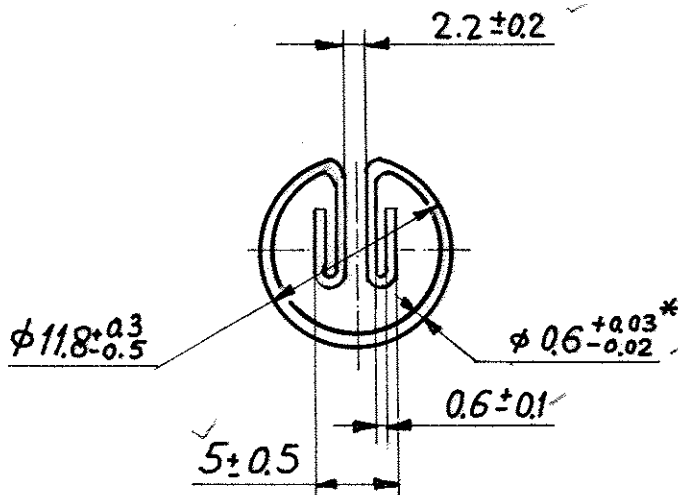
D:KHAN/BMP-II(R)TG-55-135-5203-14 14/23

VETTED FOR MATERIAL ONLY

Rpa Hras

RR PARWATKAR

SSOII



THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

1. MATERIAL: WIRE III-0,6 GOST 9389-75.
 2. IT IS ALLOWED TO USE WIRE II-0,6 GOST 9389-75 INSTEAD OF WIRE III-0,6.
 3. UNSPECIFIED RADII SHOULD NOT EXCEED 1mm. STRAIGHTENED LENGTH ≈ 65mm.
 4. COATING: GLAZY NICKEL PLATING, 24μ THICK.
- *SIZE FOR REFERENCE.

VETTED
22 JAN 2008
JWM/STD-CELL

MATERIAL: — WIRE III-0.6 GOST 9389-75

CHEMICAL COMPOSITION IN %

C = 0.86 - 0.91	Cu = 0.10
Mn = 0.2 - 0.4	Al =
Si = 0.17 - 0.37	Fe =
S = 0.02 Max	Zn =
P = 0.02 Max	Sn =
Cr = 0.05	As =
Ni = 0.05	Pb =
Ti =	B =

PHYSICAL PROPERTY: —

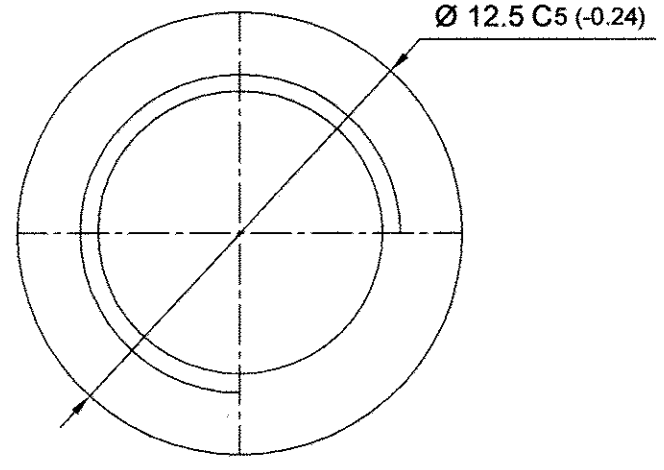
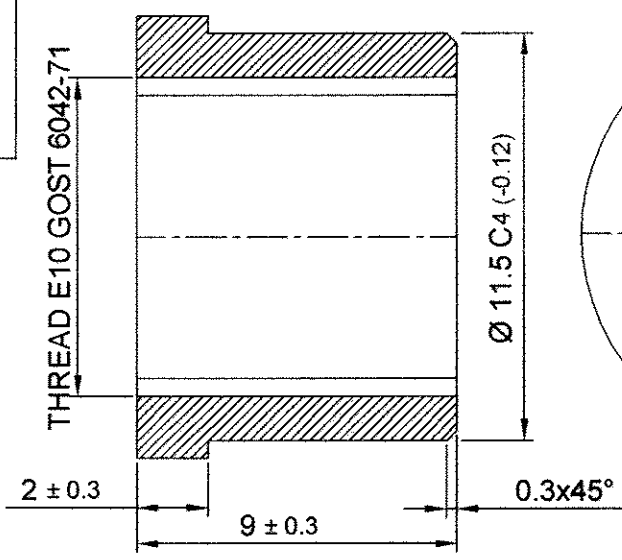
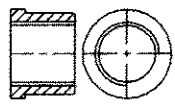
TENSILE STRENGTH	170-220 kg/mm ²
YIELD STRENGTH	
IMPACT STRENGTH	
U.T.S.	
RELATIVE ELONGATION	
REDUCTION OF AREA	
HARDNESS	

VETTED
31 NOV 2004
[Signature]

Rz80/ (✓)

NO. OFF.	DESCRIPTION	PART NO.	MATERIAL	STANDARD	DIMENSIONS	REMARKS
<p>MASS 0.0003kg.</p>						
<p>GENERAL TOLERANCE</p>						
<p>LINEAR DIMENSION</p>						
<p>ANGULAR DIMENSION</p>						
<p>VALVE IN μm</p>						
<p>CONTACT</p>						
<p>AZIMUTH INDICATOR HO-5203-66</p>						
<p>Mशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ</p>						
<p>MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH</p>						
<p>DRAWING NO 15</p>						
<p>DRAWING NO 15</p>						

C2/227



- @1. MATERIAL : BLACK PHENOPLAST Y1-301-07 GOST 5689-73.
 2. IT IS ALLOWED TO USE ELECTRO TECHNICAL HARD RUBBER GOST 2748-53.
 ELECTRO TECHNICAL TEXTOLITE GOST 5385-74 INSTEAD OF BLACK PHENOPLAST Y1-301-07.
 3. SURFACE SHOULD BE SMOOTH, FREE FROM CRACKS.
 4. UNSPECIFIED RADII OF ROUNDING - OFF SHOULD BE 0.5 mm.

MATERIAL PROPERTIES

IMPACT STRENGTH ON NOTCHED SPECIMENS	4.0 Kgf, cm/cm ²
ULTIMATE COMPRESSION STRESS	1000 Kgf/cm ²
ULTIMATE TENSILE STRESS	300 Kgf/cm ²
RELATIVE ELONGATION	0.4 %
MODULUS OF ELASTICITY	60.10 ³ Kgf/cm ²
HARDNESS	2500 Kgf/cm ²
DISSIPATION FACTOR AT 50 Hz	0.88
DISSIPATION FACTOR AT 10 ⁶ Hz	1.0
RESISTANCE TO OIL	0.03
SPECIFIC HEAT AT 20 TO 30°C	0.30 - 0.34 Kcal/kg.DEGREE
THERMAL CONDUCTIVITY AT 20 TO 30°C	0.18 - 0.20 Kcal/m.h DEGREE
COEFFICIENT OF LINER TH.EXP.	3.0 - 3.5 DEGREE.
OPERATION TEMPRATURE	FROM - 40 TO + 110 DEGREE/C.

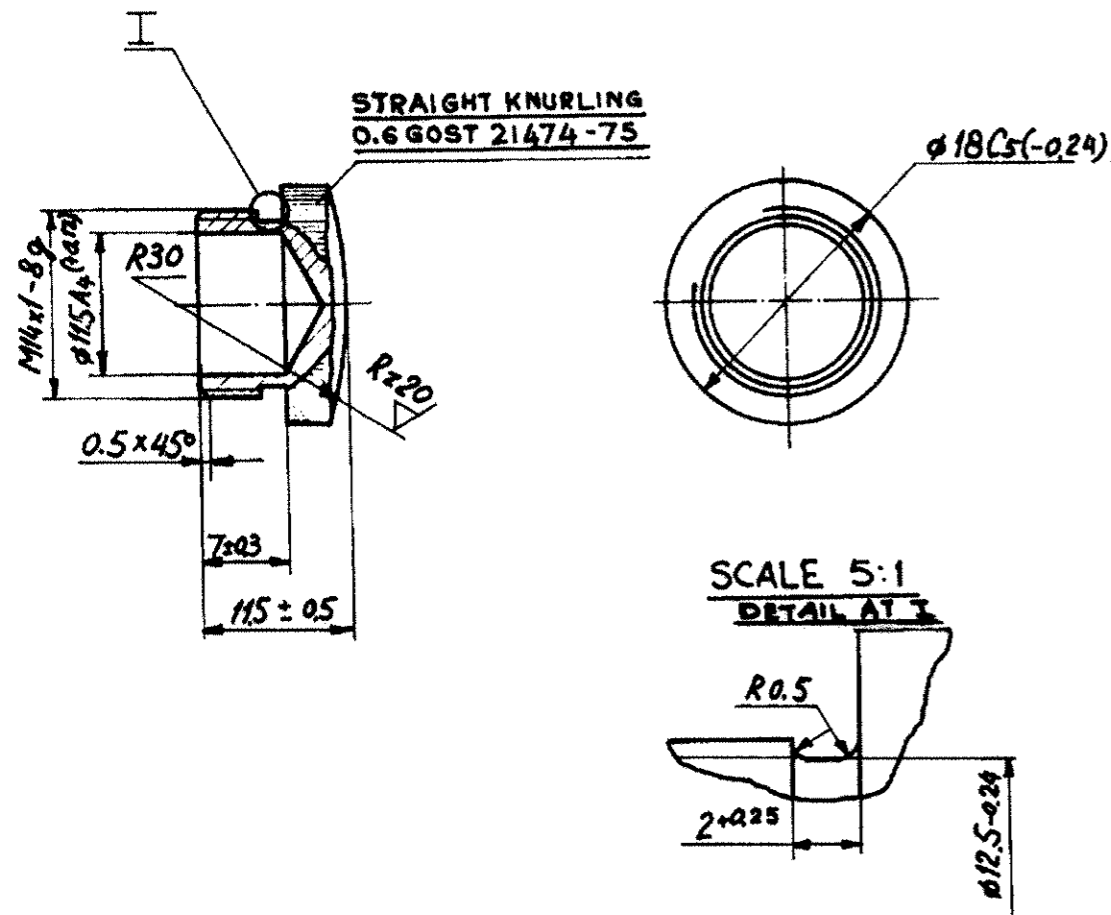


ALT MATL: JSS:1097
 ALT MATL ADDED AUTH CI (ICV)
 LETTER DT-15-12-87

THIS DRG HAS BEEN PRAPARED BASED ON AHSP DRG.

										WT-0.013 Kg		
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS						
सामान्य सहिष्णुता GENERAL TOLERANCE												
रेखिक परिमाण LINEAR DIMENSION												
0-5		±0.1										
6-30		±0.2										
30-120		±0.3										
120-315		±0.5										
315-1000		±0.8										
1000-2000		±1.2										
कोणिक परिमाण ANGULAR DIMENSION		संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME					
1-10							2008					
10-50												
50-100												
>100												
मापक 'म्यू एम' में VALUE IN 'um'												
~												
∇												
∇∇												
∇∇∇												
∇∇∇∇												
मूलमाप व अन्वयोजन NOMINAL SIZE & FT		विकलन DEVIATION		कार्यालय OFFICE		द्वारा बदला REPLACED BY		हेतु बदला REPLACED FOR				
				मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		D.O.		BTA-16 DRAWING NO: 16/23				
						TG-55-135-5203-16						

TG-55-135-5203-17



- *MATERIAL : BRASS LC 59-1 GOST-15527-70.
- IT IS ALLOWED TO USE BRASS AM458-2 OR Л-63 GOST-15527-70 INSTEAD OF BRASS LC 59-1
- DO NOT STAMP.
- COATING: GLAZY NICKEL PLATING, 9 MICRONS-THICK. QUALITY OF THREAD COATING SHOULD NOT BE CHECKED. HOLE INNER SURFACE MAY NOT BE COATED.
- IT IS ALLOWED TO RESTORE THREAD DURING ASSEMBLY IF NECESSARY.

@ALT MATL: CuZn30/CuZn40 IS:4170

@ALT MATL AUTH, CI(ICV)LETTER NO.CQA (ICV) 02103/MTPF/QID-II DT-14-7-88

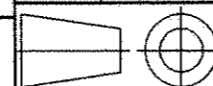
THIS DRG HAS BEEN PRAPARED BASED ON AHSP DRG.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION



CHEMICAL COMPOSITION (%)

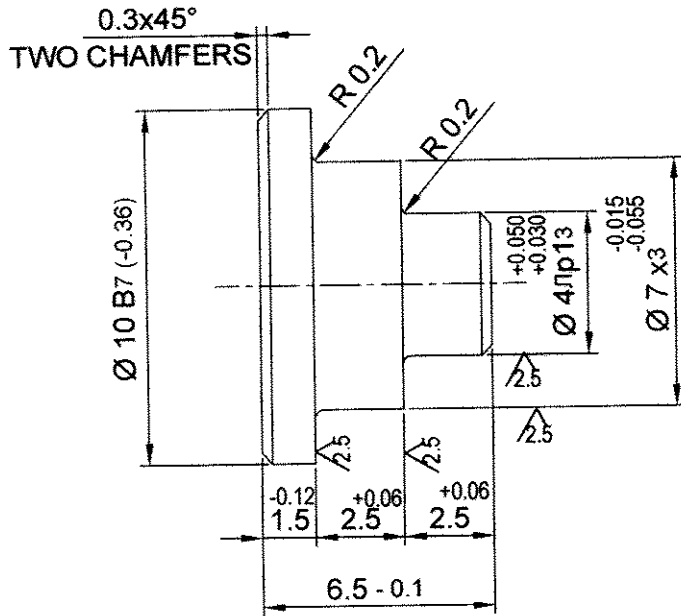
	Л63 GOST-15527-70	CuZn30 IS:4170 - 1967	CuZn40 IS:4170 - 1967
COPPER	62.0 - 65.0	68.0 - 72.0	59.0 - 62.0
ZINC	REMAINDER	REMAINDER	REMAINDER
LEAD	0.07 Max.	0.03 Max.	0.75 Max.
IRON	0.2 Max.	0.05 Max.	0.1 Max.
ANTIMONY	0.005 Max.	---	---
BISMUTH	0.002 Max.	---	---
PHOSPHORUS	0.01 Max.	---	---
TOTAL	0.5 Max.	0.30 Max.	0.30 Max.

MECHANICAL PROPERTIES

ULTIMATE STRENGTH, Kgf/mm ²	TENSILE STRENGTH, Kgf/mm ²	TENSILE STRENGTH, Kgf/mm ²
---	35 Min.	35 Min.
ELONGATION, %	ELONGATION, %	ELONGATION, %
---	5.65√A 25 Min.	5.65√A 25 Min.
HARDNESS, BHN	HARDNESS, HV	HARDNESS, HV
---	100 Max.	---



संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	WEIGHT																														
			*				0.0078 Kg																														
<p>सामान्य सहिष्णुता GENERAL TOLERANCE</p> <p>रेखिक परिमाण LINEAR DIMENSION</p> <table border="1"> <tr><td>0-6</td><td>±0.1</td></tr> <tr><td>6-30</td><td>±0.2</td></tr> <tr><td>30-120</td><td>±0.3</td></tr> <tr><td>120-315</td><td>±0.5</td></tr> <tr><td>315-1000</td><td>±0.8</td></tr> <tr><td>1000-2000</td><td>±1.2</td></tr> </table> <p>कोणिक परिमाण ANGULAR DIMENSION</p> <table border="1"> <tr><td>1-10</td><td>±1'</td></tr> <tr><td>10-50</td><td>±30'</td></tr> <tr><td>50-100</td><td>±20'</td></tr> <tr><td>> 100</td><td>±10'</td></tr> </table> <p>मापोंक 'म्यू एम' में VALUE IN 'μm'</p> <table border="1"> <tr><td>-</td><td>>25</td></tr> <tr><td>▽</td><td>8-25</td></tr> <tr><td>▽▽</td><td>1.6-8</td></tr> <tr><td>▽▽▽</td><td>0.025-1.6</td></tr> <tr><td>▽▽▽▽</td><td><0.025</td></tr> </table>								0-6	±0.1	6-30	±0.2	30-120	±0.3	120-315	±0.5	315-1000	±0.8	1000-2000	±1.2	1-10	±1'	10-50	±30'	50-100	±20'	> 100	±10'	-	>25	▽	8-25	▽▽	1.6-8	▽▽▽	0.025-1.6	▽▽▽▽	<0.025
0-6	±0.1																																				
6-30	±0.2																																				
30-120	±0.3																																				
120-315	±0.5																																				
315-1000	±0.8																																				
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1-10	±1'																																				
10-50	±30'																																				
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▽▽	1.6-8																																				
▽▽▽	0.025-1.6																																				
▽▽▽▽	<0.025																																				
LAMP HOLDER CASING		2008		दिनांक DATE	नाम NAME																																
AZIMUTH INDICATOR HO-5203-66		मापमान SCALE		आरेखित DRAWN	22.01.08	Y.D.K.																															
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ		कार्यालय OFFICE		जाँचा CHECKED	22/1																																
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		D.O.		अनुमोदित APPROVED		A.K.N.																															
		द्वारा बदला REPLACED BY		हेतु बदला REPLACED FOR	BTA-17																																
				आरेखण क्र. DRAWING NO.	17/23																																
				TG-55-135-5203-17																																	



- MATERIAL : BRONZE BpA Ж 9-4 GOST-18175-72
- RUN-OUT OF SURFACE Ø7 WITH RESPECT TO SURFACE Ø4 SHOULD NOT EXCEED 0.03 mm.

CHEMICAL COMPOSITION (%)

	BrA ZH 9-4 GOST- 18175-78
ALUMINIUM	8.0 - 10.0
IRON	2.0 - 4.0
COPPER	THE REST
TIN	0.1 Max.
SILICON	0.1 Max.
LEAD	0.01 Max.
PHOSPHORUS	0.01 Max.
ZINC	1.0 Max.
MANGANESE	0.5 Max.
TOTAL	1.7 Max.



THIS DRG HAS BEEN PREPARED BASED ON AMSP DRG.

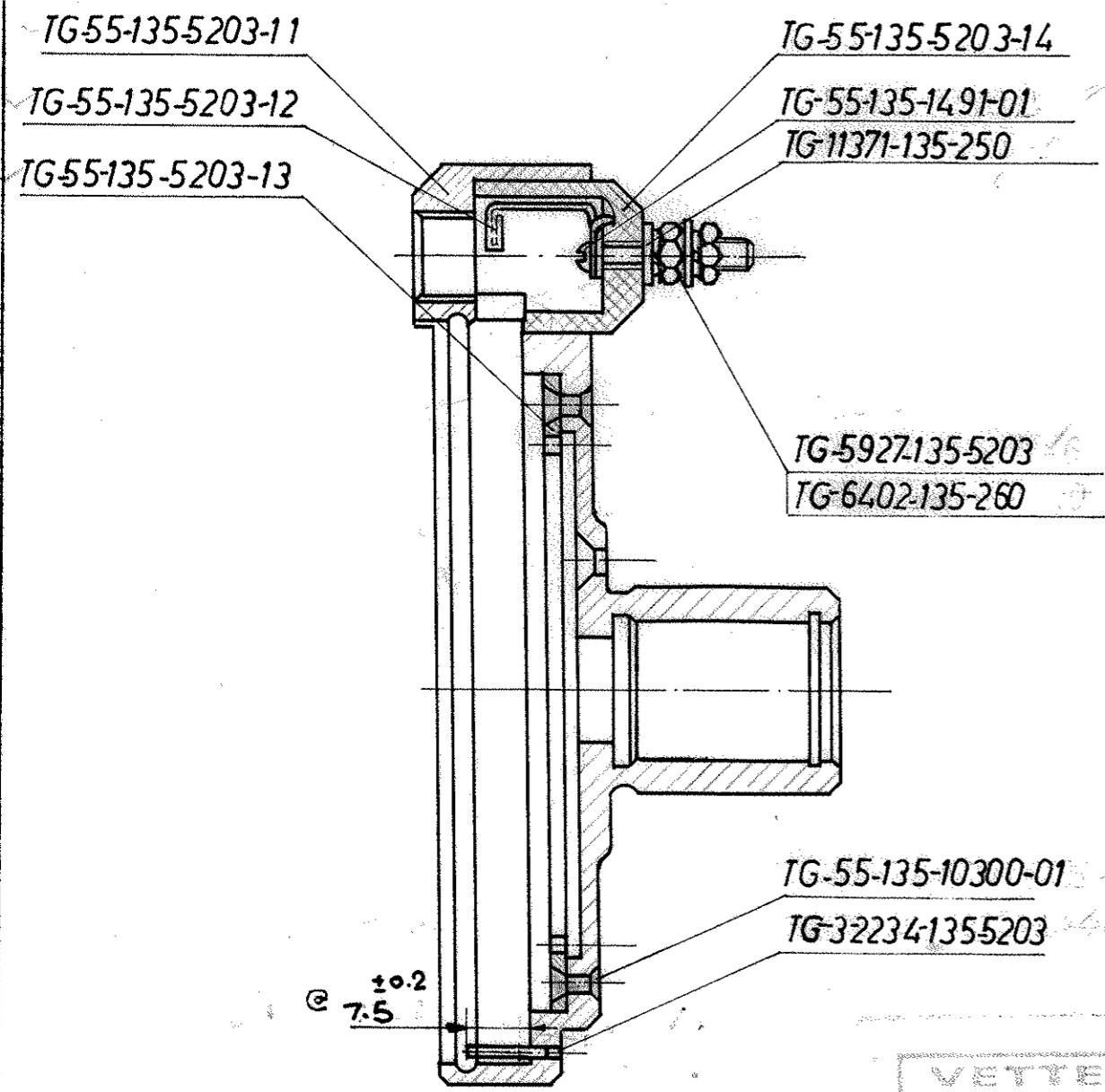
Rz 80 (✓)

							WT-0.012 Kg	
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS		
सामान्य सहिष्णुता GENERAL TOLERANCE								
रेखिक परिमाण LINEAR DIMENSION								
0-6	±0.1							
6-30	±0.2							
30-120	±0.3							
120-315	±0.5							
315-1000	±0.8							
1000-2000	±1.2							
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME	
1-10	±1'	AXLE			मापमान SCALE	21.03.08	आरेखित DRAWN	
10-50	±30'						Y.D.K.	
50-100	±20'							
>100	±10'							
मापांक 'म्यू एम' में VALUE IN 'μm'								
~	>25	AZIMUTH INDICATOR-HO-5203-66						
▽	8-25							
▽▽	1.8-9							
▽▽▽	0.025-1.8							
▽▽▽▽	<0.025							
मूलमाप व अन्वायोजन NOMINAL SIZE & FIT	विचलन DEVIATION	मशीनी औजार आदिस्व फ़ैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH			कार्यालय OFFICE	द्वारा बदला REPLACED BY		
				D.O.	हेतु बदला REPLACED FOR		BTA-18	
				आरेखण क्र. DRAWING NO		18/23		
				TG-55-135-5203-18				

UPDATED AS PER OLD VETTED DRG.

D:KHAN/BMP-III/(R)TG-55-135-5203-18 18/23

1. SET BUSHING (REF. NO TG-55-135-5203-14) ON GLUE ϕ -4 GOST 12172-74.
2. CUTOUT OF BUSHING (REF. NO TG-55-135-5203-14) SHOULD BE ALIGNED WITH CUTOUT PROVIDED ON CASING (REF. NO TG-55-135-5203-11).
3. PROJECTION OF RIVET HEADS BEYOND FLANGE OF GEAR (REF. NO TG-55-135-5203-13) IS NOT TOLERABLE.



VETTED
22 JAN 2008
JWM/STO-CELL

THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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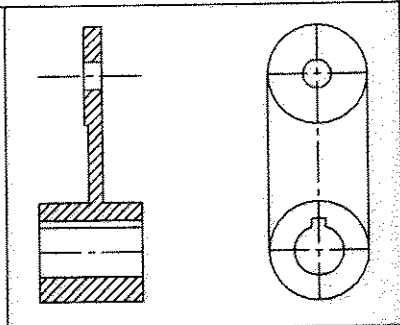
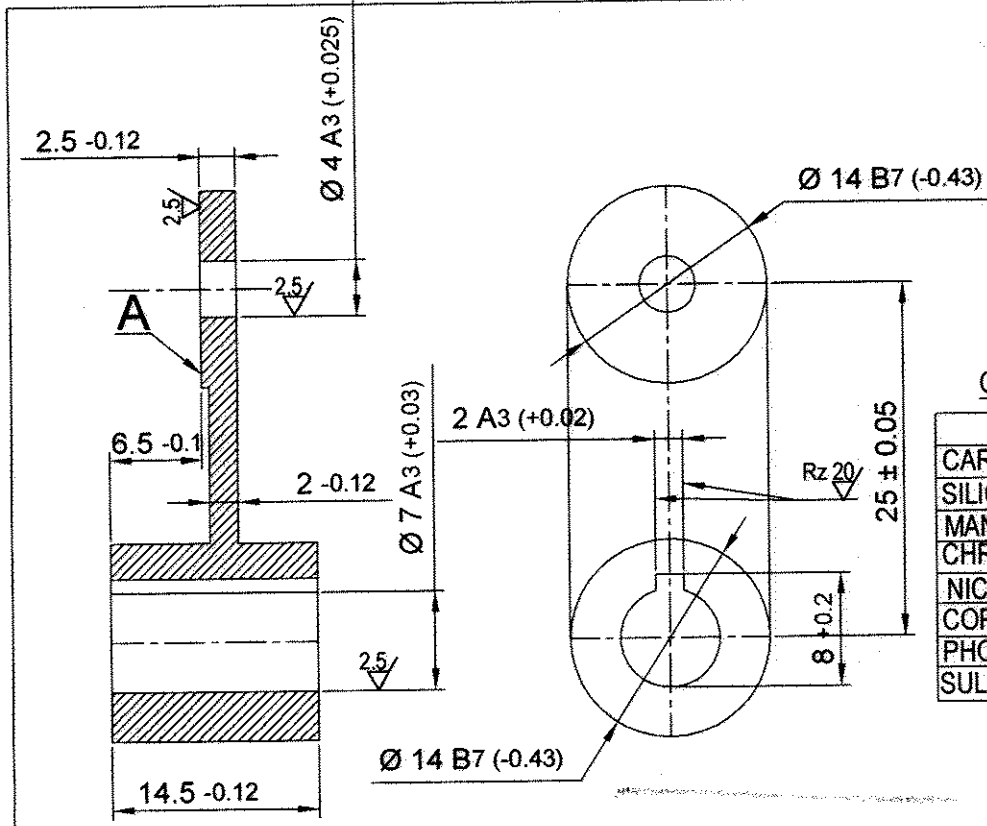
मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

						MASS 0.334 Kg	
संख्या NO OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	
सामान्य सहिष्णुता GENERAL TOLERANCE			@	DIMN. 7.5 ±0.2 WAS 1 ±0.2 AUTH. ICV			
रेखिक परिमाण LINEAR DIMENSION				LETTER NO. CQA-ICV/6696/III/ID-II		DT-1.2.90 28-2.90	
0-6	±0.1						
6-30	±0.2						
30-120	±0.3						
120-315	±0.5						
315-1000	±0.8						
1000-2000	±1.2						
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME	
1-10	±1°						
10-50	±30'						
50-100	±20'						
> 100	±10'						
मापों का 'म्यू.एम.' में VALUE IN 'μm'						मापमान SCALE	
∇	> 25	CASING ASSEMBLY AZIMUTH INDICATOR H0-5203-66				आरेखित DRAWN	
∇∇	8-25					जांचा CHECKED	
∇∇∇	1.6-8					1:1	
∇∇∇∇	0.025-1.6					अनुमोदित APPROVED	
FIRST ANGLE PROJECTION						द्वारा बदला REPLACED BY	
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH						कार्यालय OFFICE	
						हेतु बदला REPLACED FOR	
						आरेखण क्र. DRAWING NO.	
						W.M.T. TG-55-135-5203-20	

Elabhy
M

C2/232



CHEMICAL COMPOSITION (%)

	20 GOST-1050-74
CARBON	0.17 - 0.24
SILICON	0.17 - 0.37
MANGANESE	0.35 - 0.65
CHROMIUM	0.25 Max.
NICKEL	0.25 Max.
COPPER	0.25 Max.
PHOSPHORUS	0.035 Max.
SULPHUR	0.040 Max.

MECHANICAL PROPERTIES

ULTIMATE STRENGTH, Kgf/mm ²	42 Min.
YIELD POINT, Kgf/mm ²	25 Min.
RELATIVE ELONGATION, %	25 Min.
REDUCTION OF AREA, %	55 Min.
HARDNESS, HB	163 Max.

VETTED
25 MAR 2008

THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

- MATERIAL: STEEL 20 GOST 1050-74.**
- IT IS ALLOWED TO USE STEEL 25, 30, 35, GOST 1050-74 INSTEAD OF STEEL 20.**
- PARALLELISM TOLERANCE OF AXES OF HOLES Ø4 AND Ø7 SHOULD NOT EXCEED 0.05 mm.**
- SQUARENESS TOLERANCE OF SURFACE A WITH RESPECT TO AXIS OF HOLE Ø4 SHOULD NOT EXCEED 0.05 mm.**
- OFFSET AND COCKING OF KEY GROOVE SHOULD NOT EXCEED 0.05 mm.**
- COATING: GLAZY ELECTROLESS OXIDIZING.**

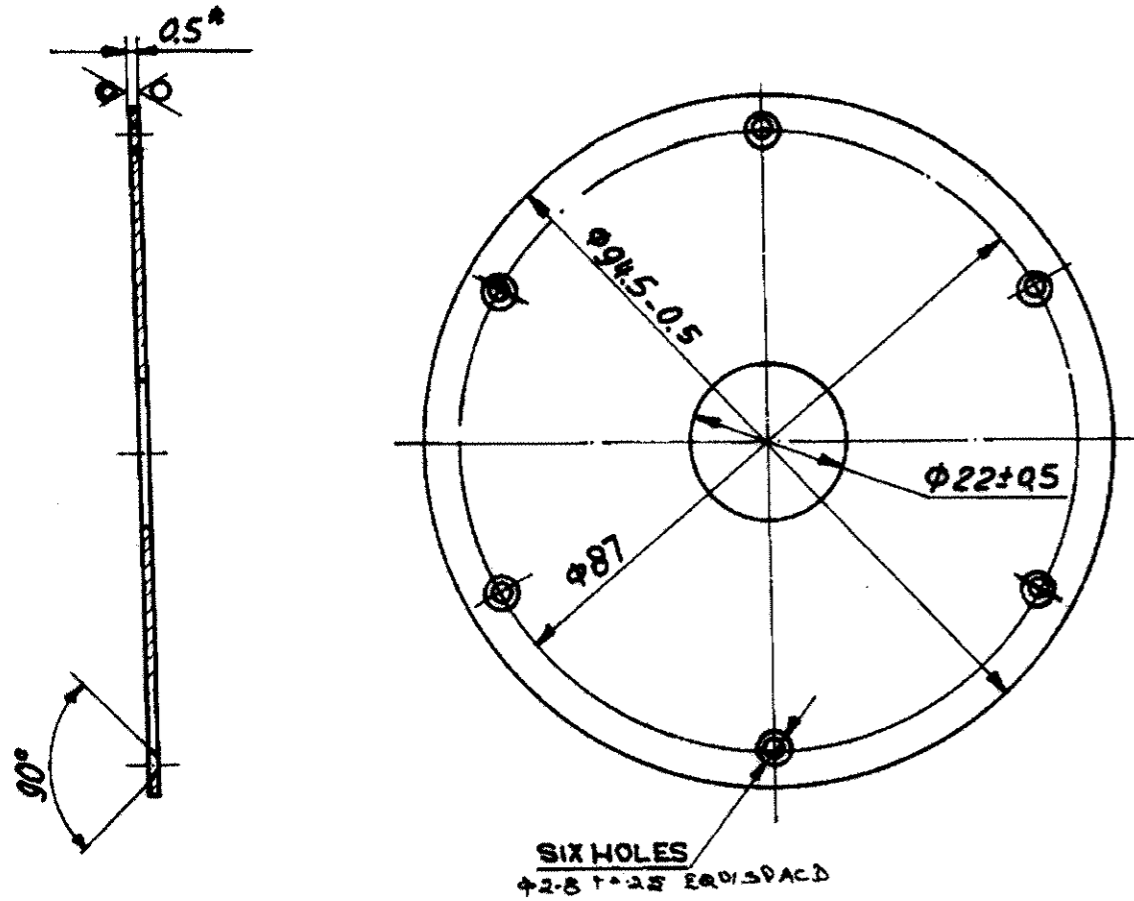
Rz 80 (✓)

WT-0.012 Kg

संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यवित REMARKS																														
<p>सामान्य सहिष्णुता GENERAL TOLERANCE</p> <p>रेखिक परिमाण LINEAR DIMENSION</p> <table border="1"> <tr><td>0-6</td><td>±0.1</td></tr> <tr><td>6-30</td><td>±0.2</td></tr> <tr><td>30-120</td><td>±0.3</td></tr> <tr><td>120-315</td><td>±0.5</td></tr> <tr><td>315-1000</td><td>±0.8</td></tr> <tr><td>1000-2000</td><td>±1.2</td></tr> </table> <p>कोणिक परिमाण ANGULAR DIMENSION</p> <table border="1"> <tr><td>1-10</td><td>±1'</td></tr> <tr><td>10-50</td><td>±30'</td></tr> <tr><td>50-100</td><td>±20'</td></tr> <tr><td>>100</td><td>±10'</td></tr> </table> <p>मापक 'म्यू एम' में VALUE IN 'μm'</p> <table border="1"> <tr><td>~</td><td>>25</td></tr> <tr><td>∩</td><td>8-25</td></tr> <tr><td>∩∩</td><td>1.8-8</td></tr> <tr><td>∩∩∩</td><td>0.025-1.6</td></tr> <tr><td>∩∩∩∩</td><td><0.025</td></tr> </table>							0-6	±0.1	6-30	±0.2	30-120	±0.3	120-315	±0.5	315-1000	±0.8	1000-2000	±1.2	1-10	±1'	10-50	±30'	50-100	±20'	>100	±10'	~	>25	∩	8-25	∩∩	1.8-8	∩∩∩	0.025-1.6	∩∩∩∩	<0.025
0-6	±0.1																																			
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∩	8-25																																			
∩∩	1.8-8																																			
∩∩∩	0.025-1.6																																			
∩∩∩∩	<0.025																																			
संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008	दिनांक DATE	नाम NAME																														
CARRIER				मापमान SCALE	अंशित DRAWN	21.03.08 Y.D.K.																														
AZIMUTH INDICATOR-HO-5203-66				NTS	जाँचा CHECKED																															
मशीनी औजार आदिस्प फैक्टरी, अम्बरनाथ				अनुमोदित APPROVED	30/3	A.K.N.																														
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH				द्वारा बदला REPLACED BY	हेतु बदला REPLACED FOR	BTA-21																														
D.O.				आरेखण क्र. DRAWING NO.	21/23																															
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT				TG-55-135-5203-21																																
विचलन DEVIATION				D:KHAN/BMP-III(R)TG-55-135-5203-21 21/23																																

UPDATED AS PER OLD VETTED DRG.

TG-55-135-5203-22



- *MATERIAL: SHEET A16AM 0.5 GOST-21631-76
- IT IS ALLOWED TO USE SHEET D1AM 0.5, D16B M 0.5, AMГ6B M 0.5, GOST-21631-75 INSTEAD OF SHEET A16AM 0.5.
- OFFSET OF AXES OF HOLES Ø2.8 FROM TRUE POSITION SHOULD NOT EXCEED 0.2 mm.
- * SIZE FOR REFERENCE.

VETTED
22 JAN 2008
JWM/S'D-CELL

THIS DRG HAS BEEN PREPARED BASED ON ANSP DRG.

@ALT MATL:-GR.19900/19800/19700 TO IS:737

@ALT MATL AUTH, CI(ICV)LETTER NO.CQA (ICV) 02103/MTPF/QID-II DT-14-7-88

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

THE COPYRIGHT OF THESE DRAWINGS AND ALL ATTACHMENTS THERE TO BELONGS TO THE INDIAN ORDNANCE FACTORIES, MINISTRY OF DEFENCE, GOVT. OF INDIA THEY SHOULD NOT BE COPIED, REPRODUCED IN ANY WAY OR THE INFORMATION CONTAINED THEREIN MADE AVAILABLE TO UNAUTHORISED PERSONS WITHOUT THE WRITTEN PERMISSION OF THE DIRECTOR OF ORDNANCE FACTORIES.

मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

CHEMICAL COMPOSITION (%)

	AMГ6B GOST-21631-76	19700 IS:737-86	19800 IS:737-86	19900 IS:737-86
ALUMINIUM	BASE	99.7 Min.	99.8 Min.	---
MAGNESIUM	5.80 - 6.80	---	---	---
MANGANESE	0.50 - 0.80	0.03 Max.	0.03 Max.	---
TITANIUM	0.020 - 0.10	---	---	---
BERYLLIUM	0.0002 - 0.005	---	---	---
IRON	0.40 Max	0.25 Max.	0.15 Max	---
SILICON	0.40 Max	0.2 Max.	0.15 Max	---
COPPER	0.10 Max	0.03 Max.	0.03 Max	---
ZINC	0.20 Max	0.06 Max	0.06 Max	---
OTHER IMPURITIES	---	Cu+Si+Fe+Mn+ Zn=0.3	Cu+Si+Fe+Mn+ Zn=0.2	---
EACH INDIVIDUALLY	0.05 Max	---	---	---
TOTAL	0.10 Max	---	---	---
CHROMIUM	---	---	---	---

MECHANICAL PROPERTIES
GOST-21631-76

MECHANICAL PROPERTIES

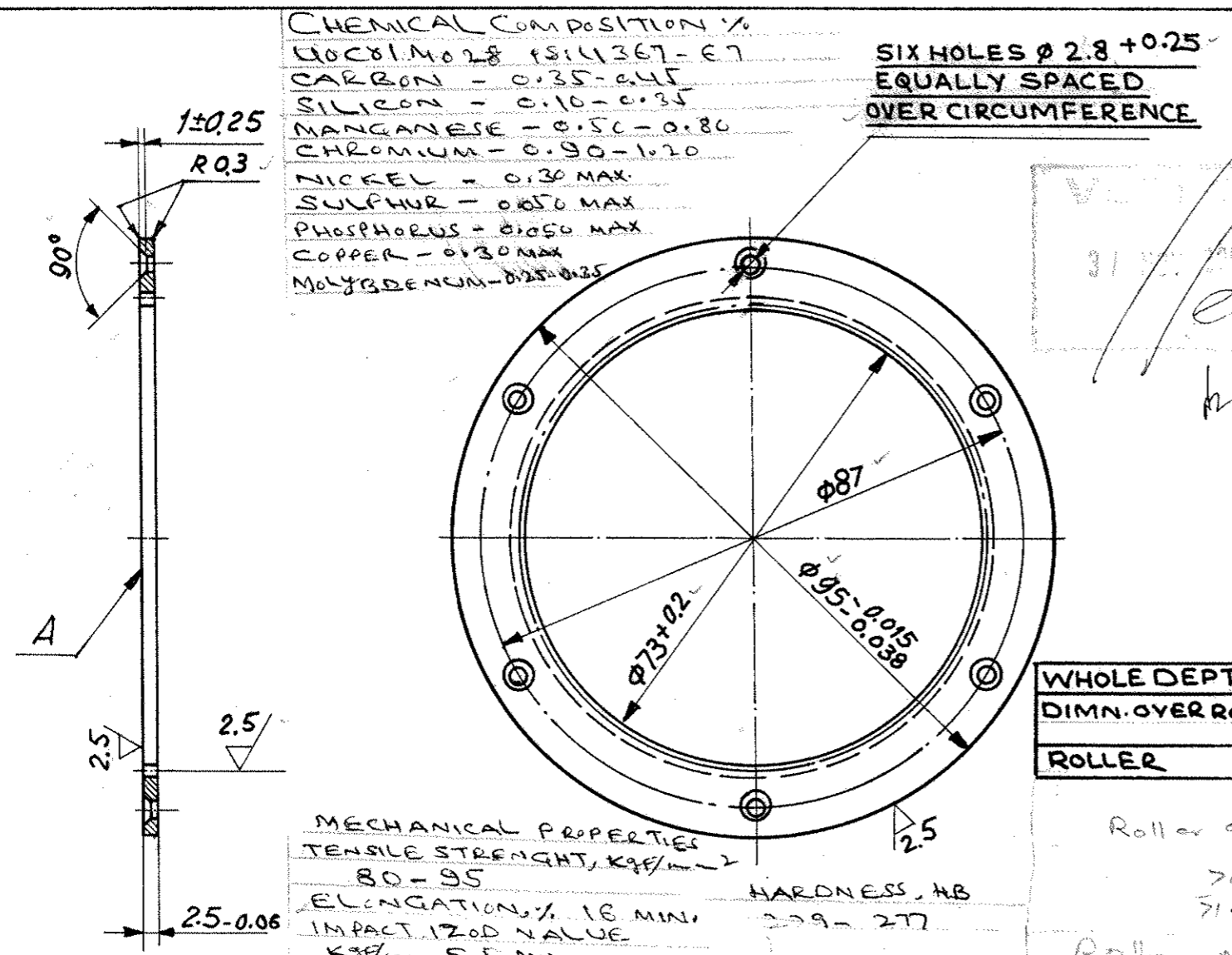
TENSILE STRENGTH, - Kg/mm ²	31 Min.	95 max. mpa	90 Max. Mpa	---
YIELD POINT, Kg/mm ²	15 Min.	---	---	---
ELONGATION, %	15 Min.	27 Min.	29 Min.	---
REDUCTION IN AREA,	---	---	---	---
IMPACT STRENGTH, Kg/mm ²	---	---	---	---
HARDNESS, BHN	---	---	---	---

HEAT TREATMENT: ANNEALED

संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अध्यक्षित REMARKS	WEIGHT																														
							0.009 Kg																														
<p>सामान्य सहिष्णुता GENERAL TOLERANCE</p> <p>रेखिक परिमाण LINEAR DIMENSION</p> <table border="1"> <tr><td>0-6</td><td>±0.1</td></tr> <tr><td>6-30</td><td>±0.2</td></tr> <tr><td>30-120</td><td>±0.3</td></tr> <tr><td>120-315</td><td>±0.5</td></tr> <tr><td>315-1000</td><td>±0.8</td></tr> <tr><td>1000-2000</td><td>±1.2</td></tr> </table> <p>कोणिक परिमाण ANGULAR DIMENSION</p> <table border="1"> <tr><td>1-10</td><td>±1'</td></tr> <tr><td>10-50</td><td>±30'</td></tr> <tr><td>50-100</td><td>±20'</td></tr> <tr><td>>100</td><td>±10'</td></tr> </table> <p>मापोंक 'म्यू एम' में VALUE IN 'μm'</p> <table border="1"> <tr><td>~</td><td>>25</td></tr> <tr><td>▽</td><td>8-25</td></tr> <tr><td>▽▽</td><td>1.6-8</td></tr> <tr><td>▽▽▽</td><td>0.025-1.6</td></tr> <tr><td>▽▽▽▽</td><td><0.025</td></tr> </table>								0-6	±0.1	6-30	±0.2	30-120	±0.3	120-315	±0.5	315-1000	±0.8	1000-2000	±1.2	1-10	±1'	10-50	±30'	50-100	±20'	>100	±10'	~	>25	▽	8-25	▽▽	1.6-8	▽▽▽	0.025-1.6	▽▽▽▽	<0.025
0-6	±0.1																																				
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संख्या NO.OFF	संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2008		दिनांक DATE	नाम NAME																														
				DISC		मापमान SCALE	आरेखित DRAWN																														
				AZIMUTH INDICATOR HO-5203-66		22.01.08	Y.D.K.																														
				Mशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ		जाँचा CHECKED	अनुमोदित APPROVED																														
				MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		द्वारा बदला REPLACED BY	द्वारा बदला REPLACED FOR																														
				D.O.		हेतु बदला REPLACED FOR	BTA-22																														
				TG-55-135-5203-22		आरेखण क्र. DRAWING NO.	22/23																														

UPTO DATED AS PER OLD VETTED DRG

File Path: D:/KHAN/BMP-II/(R)TG-55-135-5203-22 22/23



CHEMICAL COMPOSITION %
 UOC81 Mo 28 IS:4367-67
 CARBON - 0.35-0.45
 SILICON - 0.10-0.35
 MANGANESE - 0.50-0.80
 CHROMIUM - 0.90-1.20
 NICKEL - 0.30 MAX.
 SULPHUR - 0.050 MAX
 PHOSPHORUS - 0.050 MAX
 COPPER - 0.30 MAX
 MOLYBDENUM - 0.25-0.35

**SIX HOLES ϕ 2.8 \pm 0.25
 EQUALLY SPACED
 OVER CIRCUMFERENCE.**

MODULE	m	1.25
NUMBER OF TEETH	Z	60
BASIC RACK	ANGLE OF PROFILE	20°
	TOOTH DEPTH COEFFICIENT	ϕ 0.8
ADDENDUM MODIFICATION COEFFICIENT	ξ	0
DEGREE OF ACCURACY ACCORDING TO GOST 1643-72	-	7A
BASE TANGENT LENGTH	W	25.039 \pm 0.049 +0.083
RUN-OUT OF TOOTHING AGAINST PIN WITH RESPECT TO SURFACE ϕ 95	F _r	0.038
VARIATION IN BASE TANGENT LENGTH	V _W	0.024
MAJOR DIA.		77.5

WHOLE DEPTH - 2.25
DIMN. OVER ROLLER - 72.78 MAX
72.68 MIN
ROLLER ϕ = 2

MATERIAL - 40X GOST: 4543-71
CHEMICAL COMPOSITION IN %
 C = 0.36-0.44
 Mn = 0.50-0.80
 Si = 0.17-0.37
 P = 0.025
 S = 0.035
 Cr = 0.8-1.10
 Ni = 0.30
 Al = 0.3
 Fe =
 Zn =
 Sn =
 As =
 Pb =
 B =

PHYSICAL PROPERTY:
 TENSILE STRENGTH 100 kgf/mm²
 YIELD STRENGTH 80 kgf/mm²
 IMPACT STRENGTH 8 kgf/m²
 U.T.S. kgf/cm²
 RELATIVE ELONGATION 10%
 REDUCTION OF AREA 45%
 HARDNESS RC - 28-35

ALT. MATL.
 40C4 OR
 40CrMo28 / S:5517
 OR
 EN 9 BS/970

Roller ϕ 2.2
 71.859124
 71.9683604
 Roller ϕ 2.217
 71.78585147
 71.89597903

- ALTERNATE MATERIAL - 40Cr1 Mo28 TO IS:4367-67**
- MATERIAL: STEEL 40X GOST 4543-71.
HARDNESS: HRC 28 TO 35.
 - OFFSET OF AXES OF HOLES, ϕ 2.8, FROM TRUE POSITION SHOULD NOT EXCEED 0.2 mm.
 - NONFLATNESS OF SURFACE A SHOULD NOT EXCEED 0.1 mm.
 - COATING: GLAZY ELECTROLESS OXIDIZING.
 - IT IS ALLOWED TO USE STEEL 45X GOST 4543-71 INSTEAD OF STEEL 40X.
- THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

VETTED FOR MATERIAL ONLY

Rp
RR PARWATKAR
 SSoII

VETTED
 22 JAN 2008
 JWM/STD-CELL

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
 NOMINAL SIZE & FIT

विचलन
 DEVIATION

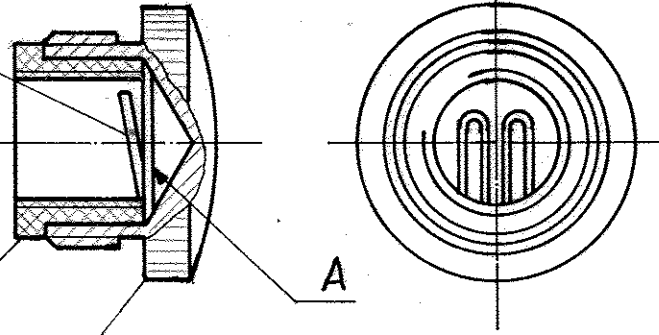
संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	MASS 0.056 Kg	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE						8.4.88
	रेखिक परिमाण LINEAR DIMENSION						
	0-6						
	6-30						
	30-120						
	120-315						
	315-1000						
	1000-2000						
कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION			दिनांक DATE
1-10							
10-50							
50-100							
> 100							
मापक 'म्यू.एम.' में VALUE IN 'μm'							
> 25							
8-25							
1.6-8							
0.025-1.6							
< 0.025							
GEAR						मापमान SCALE	आरेखित DRAWN
AZIMUTH INDICATOR HO - 5203-66						1:1	-9.87
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ						जाँचा CHECKED	14.10
MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH						अनुमोदित APPROVED	
FIRST ANGLE PROJECTION						द्वारा बदला REPLACED FOR	BTA-23
कार्यालय OFFICE						हेतु बदला REPLACED FOR	
W.M.T.						आरेखण क्र. DRAWING NO.	23
Mass 0.056 kg							TG55-135-5203-23

Mass 0.056 kg C2/235 C2/235

TG55-135-5203-15

TG55-135-5203-16

TG55-135-5203-17



- 1: INSTALL PART (REF. NO TG-55-135-5203-16) INTO PART (REF. NO TG-55-135-5203-17) ON GLUE B Φ-4 GOST 12172-74 AS FAR AS IT WILL GO.
2. NO GLUE IS ALLOWED ON END FACE A OF PART (REF. NO TG-55-135-5203-15)
3. DURING ASSEMBLY IT IS ALLOWED TO CLEAN PART (REF. NO. TG-55-135-5203-16) WITH EMERY PAPER.

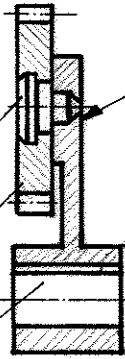
VETTED
22 JAN 2008
JWM/STD-CELL

31 JAN 2008
[Signature]
A

THIS DRG HAS BEEN PRAPARED BASED ON AHSP DRG.

							MASS 0.00923 kg		
संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अव्यक्ति REMARKS			
सामान्य सहिष्णुता GENERAL TOLERANCE									
रेखिक परिमाण LINEAR DIMENSION									
0-6						± 0.1			
6-30						± 0.2			
30-120						± 0.3			
120-315						± 0.5			
315-1000						± 0.6			
1000-2000						± 1.2			
कोणिक परिमाण ANGULAR DIMENSION		संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. DRG NO OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME		
1-10						± 1°			
10-50						± 30			
50-100						± 20			
> 100						± 10			
मापक स्प. एम. म. VALUE IN μm									
~						> 25			
P						8-25			
V						16-8			
Z						0.025-16			
Y						< 0.025			
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विवचन DEVIATION	LAMP HOLDER AZIMUTH INDICATOR HO-5203-66				मापमान SCALE	आरेखित DRAWN	-9-87	<i>[Signature]</i>
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH				जांचा CHECKED	अनुमोदित APPROVED		
		FIRSTANGLE PROJECTION				कार्यालय OFFICE	द्वारा बदला REPLACED BY	हेतु बदला REPLACED FOR	
		W.M.T.				आरेखण क्र. DRAWING NO.	TG551355203-30		

C/236



STOP PUNCH AXLE END FACE
AT THREE POINTS.

TG-55-135-5203-18

TG-55-135-5203-19

TG-55-135-5203-21

PLANETARY PINION SHOULD TURN FREELY WITHOUT SEIZURE,
AROUND AXLE.

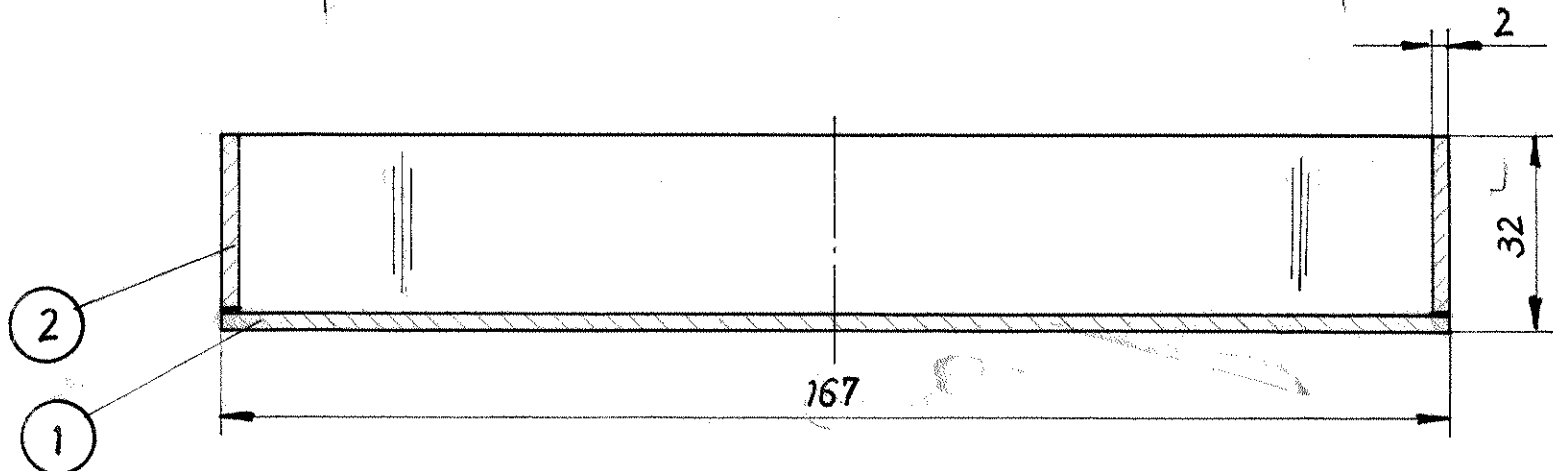
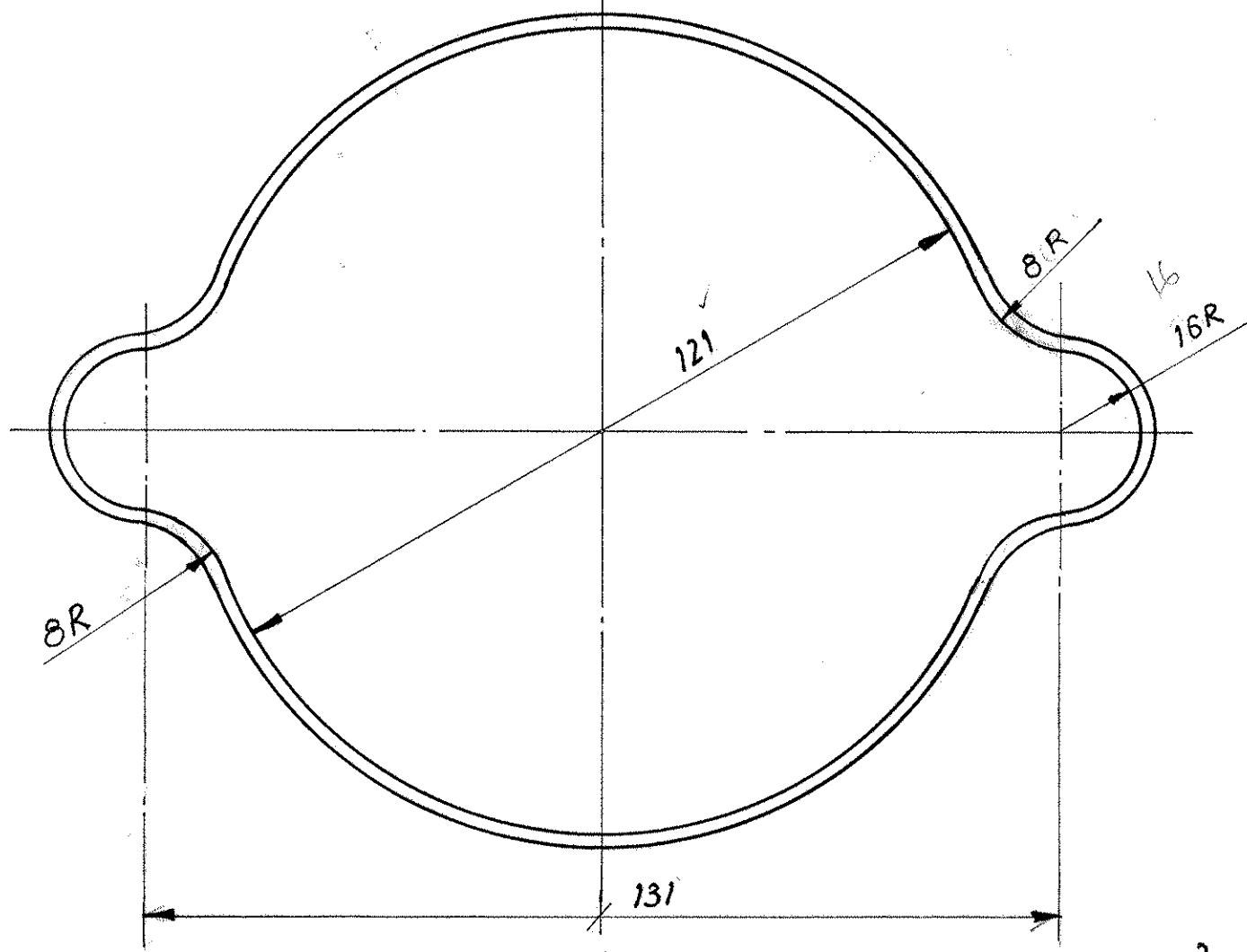
VETTED
22 JAN 2008
JWM/STD-CELL

VETTED
31 NOV 2004
Chitra
h

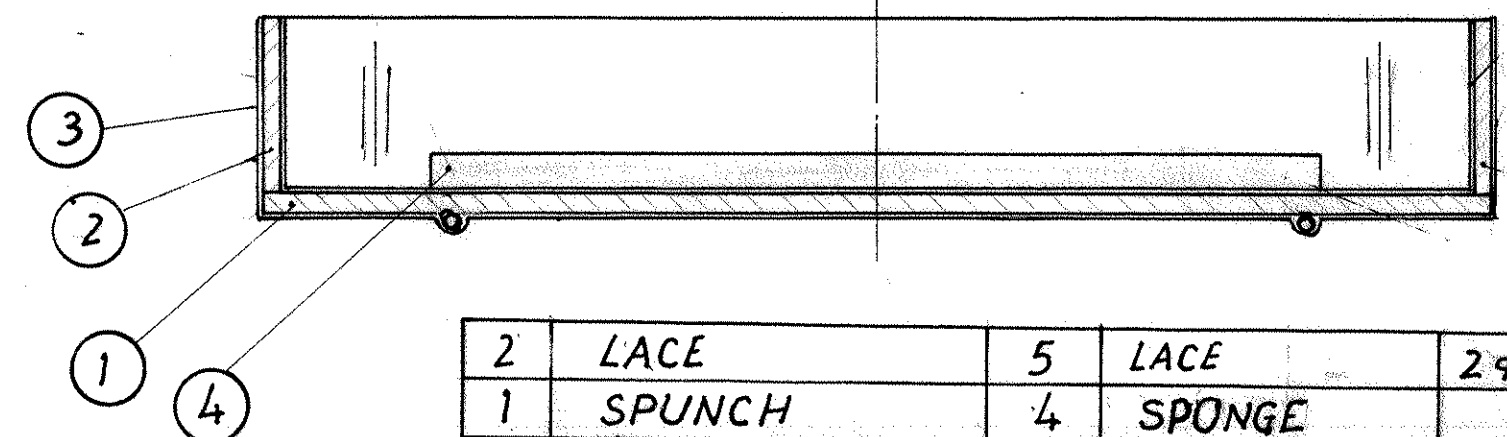
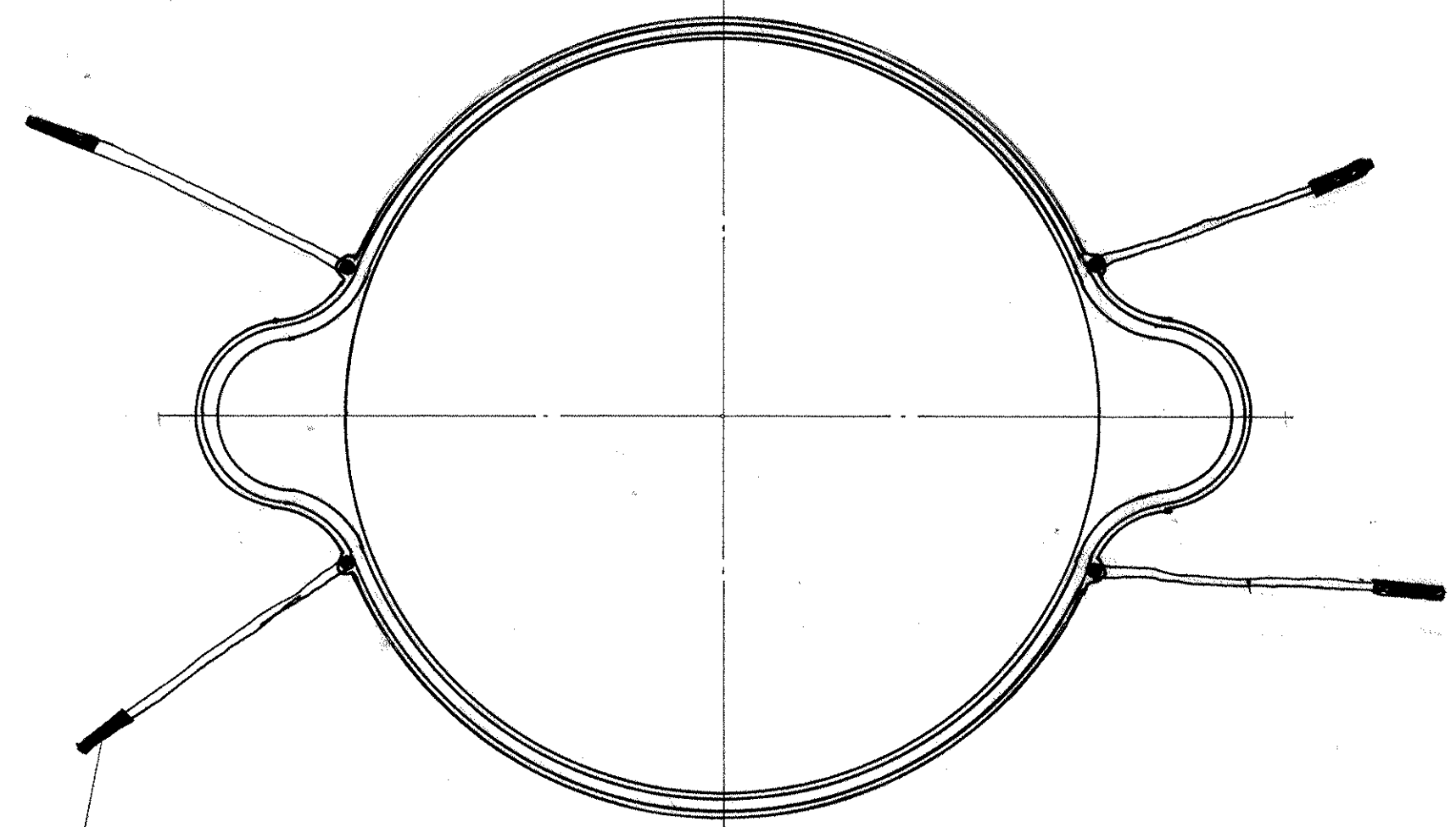
THIS DRG HAS BEEN PREPARED BASED ON AHSP DRG.

संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	प्रयोगित REMARKS	MASS 0.042 kg.																													
<p>सामान्य सहिष्णुता GENERAL TOLERANCE</p> <p>रेखिक परिमाण LINEAR DIMENSION</p> <table border="1"> <tr><td>0 - 6</td><td>± 0.1</td></tr> <tr><td>6 - 30</td><td>± 0.2</td></tr> <tr><td>30 - 120</td><td>± 0.3</td></tr> <tr><td>120 - 315</td><td>± 0.5</td></tr> <tr><td>315 - 1000</td><td>± 0.8</td></tr> <tr><td>1000 - 2000</td><td>± 1.2</td></tr> </table> <p>कोणिक परिमाण ANGULAR DIMENSION</p> <table border="1"> <tr><td>1° - 10°</td><td>± 19</td></tr> <tr><td>10° - 50°</td><td>± 30</td></tr> <tr><td>50° - 100°</td><td>± 20</td></tr> <tr><td>> 100°</td><td>± 10°</td></tr> </table> <p>मापक म्य एम. में VALUE IN μm</p> <table border="1"> <tr><td>~</td><td>> 25</td></tr> <tr><td>∅</td><td>8 - 25</td></tr> <tr><td>∅</td><td>1.6 - 8</td></tr> <tr><td>∅</td><td>0.025 - 1.6</td></tr> <tr><td>∅</td><td>< 0.025</td></tr> </table>							0 - 6	± 0.1	6 - 30	± 0.2	30 - 120	± 0.3	120 - 315	± 0.5	315 - 1000	± 0.8	1000 - 2000	± 1.2	1° - 10°	± 19	10° - 50°	± 30	50° - 100°	± 20	> 100°	± 10°	~	> 25	∅	8 - 25	∅	1.6 - 8	∅	0.025 - 1.6	∅	< 0.025
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∅	1.6 - 8																																			
∅	0.025 - 1.6																																			
∅	< 0.025																																			
संख्या NO. OFF.	संबंधित पुर्जा का आरेखण क्र. ORG NO OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	दिनांक DATE	नाम NAME																															
<p>PLANETARY PINION ASSEMBLY AZIMUTH INDICATOR HC-5203-66</p>						<p>मापमान SCALE</p> <p>1:1</p>	<p>आरेखित DRAWN</p> <p>1-97 Ch</p> <p>जांचा CHECKED</p> <p>अनुमोदित APPROVED</p>																													
मूलमाप व अन्वयोजन NOMINAL SIZE & FIT	विवचन DEVIATION	<p>मशीनी औजार आधिकारिक फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH</p>				<p>कार्यालय OFFICE</p> <p>W.M.T.</p>	<p>द्वारा बदला REPLACED BY</p> <p>REPLACED FOR</p> <p>आरेखण क्र. DRAWING NO.</p> <p>TG-55-135-5203-40</p>																													
FIRST ANGLE PROJECTION																																				

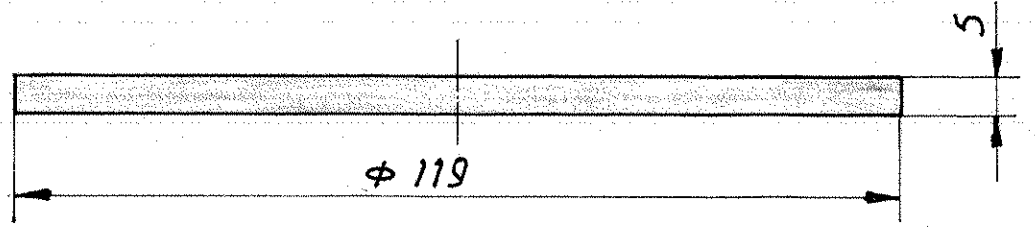
C2/237



DRG. NO.	ITEM NO.	NO. OFF.	DESCRIPTION	MATL.	REMARK
F.TG-5203-10-1	2	1	WALL	CARD BOARD	PASTED TOGETHER
	1	1	BASE	CARD BOARD	



DRG. NO.	ITEM NO.	NO. OFF.	DESCRIPTION	MATL.	REMARK
	2	1	LACE	2 ϕ x 550	FIXED TOGETHER
	1	4	SPUNCH	SPONGE	
	2	3	COVER SHEET	BROWN PAPER	250 x 200
	1	2	WALL	CARD BOARD	
	1	1	BASE	CARD BOARD	



DRG. NO.	ITEM NO.	NO. OFF.	DESCRIPTION	MATERIAL	SCALE
F-TG 5203-10-1	4	1	SPONGE	SPUNCH	1:1

VETTED
05 MAR 2007
JWM/STD-CELL

संख्या NO. OFF.	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
सामान्य सहिष्णुता GENERAL TOLERANCE						
रेखिक परिमाण LINEAR DIMENSION						
0 - 6 \pm 0.1						
6 - 30 \pm 0.2						
30 - 120 \pm 0.3						
120 - 315 \pm 0.5						
315 - 1000 \pm 0.8						
1000 - 2000 \pm 1.2						
कोणिक परिमाण ANGULAR DIMENSION						
1 - 10 \pm 1'						
10 - 50 \pm 30'						
50 - 100 \pm 20'						
> 100 \pm 10'						
संख्या NO. OFF.	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	मंशोधन ALTERATION	दिनांक DATE	नाम NAME	

COVER FOR AZIMUTH INDICATOR
BMP II

मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH

कार्यालय
OFFICE
WMT
हेतु बदला REPLACEMENT FOR
आरेखण क्र. DRAWING NO.
F-TG-135-5203-10-1

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक को लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT
विचलन
DEVIATION

