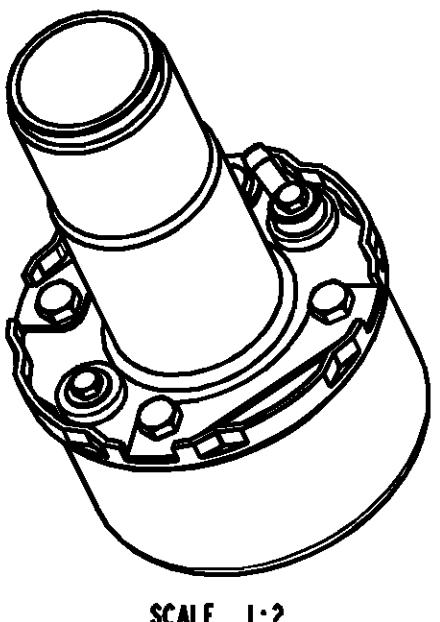
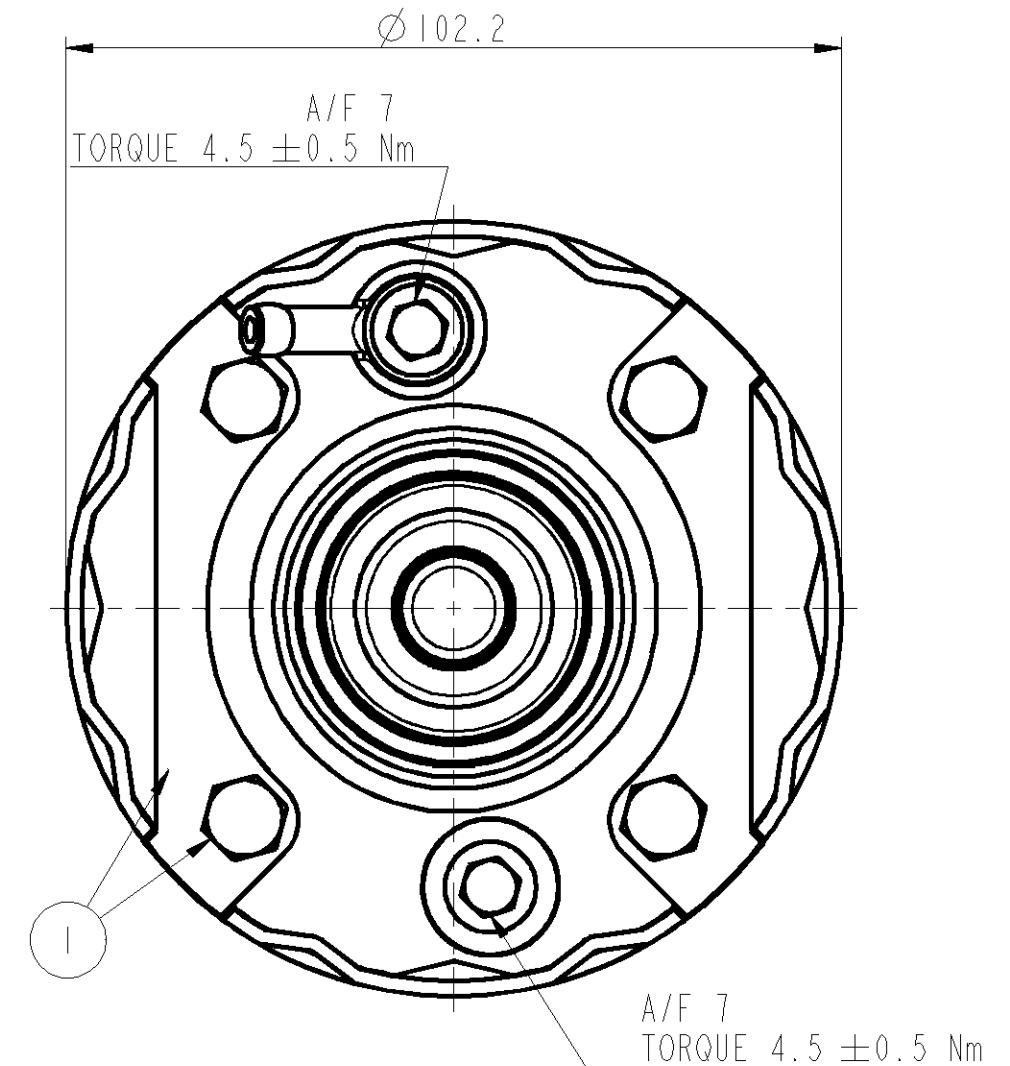
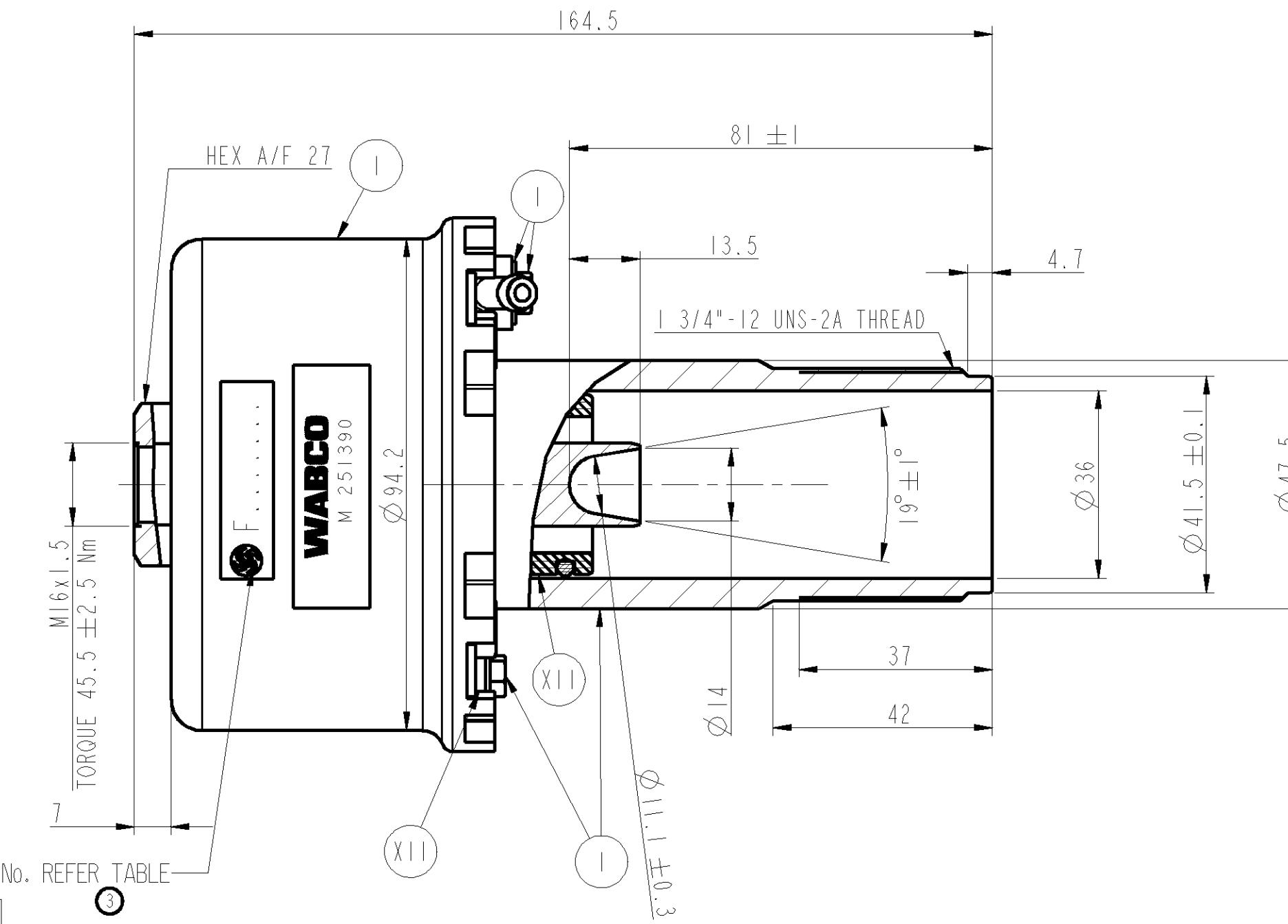


ENGINEERING CHANGES				
ECN No.	DATE	REV	SIGN	REMARKS
9234	26.11.03	NEW	RA	
11374	09.02.09	1	RBS	In label, CD-TVS monogram was TV monogram. Sundaram Clayton Ltd deleted. WABCO-TVS (INDIA) Ltd added. Drawing redrawn.
12083	16.03.11	2	RBS	Drawing template WABCO was WABCO-TVS (INDIA) Ltd. Drawing pictorially modified inline with parts. Drawing redrawn.
12325	02.05.12	3	SAT	NSS hours reviewed and updated. Customer part label added. Drawing redrawn.



SCALE 1:2



CUSTOMER PART No. REFER_T

XVII	STEEL	ED COATING
XVI	STEEL	NO TREATMENT
XV	CAST IRON	PLATED
XIV	CAST IRON	NO TREATMENT
XIII	ZINC ALLOY	ANODISED
XII	PLASTIC	NO TREATMENT
XI	RUBBER	NO TREATMENT
X	STAINLESS STEEL	NO TREATMENT
IX	BRASS	NO TREATMENT
VIII	ZINC ALLOY	CHROMATED
VII	ALUMINIUM ALLOY	ANODISED
VI	ALUMINIUM ALLOY	CHROMATED
V	CAST IRON	PAINTED
IV	STEEL	POWDER COATED
III	STEEL	PAINTED
II	STEEL	PHOSPHATED
I	STEEL	ZINC OR ZINC PLATED WITH PASSIVATION
PART CODE	MATERIAL	SURFACE PROTECTION

NOTES

NOTES:
STROKE 32 mm

PRODUCT SPECIFICATION No. PS 60C (ISSUE No. 3 DATED 02/05/12)

WORKING PRESSURE 8.4 bar max

OUTPUT FORCE AT 8 bar AIR PRESSURE: 500 Kg

NOMINAL WEIGHT: 1.5 Kg

NOTICE: WE DO
OPEN PORT AND

OPEN PORT AND Male THREAD ARE FITTED WITH CLOSURE PLUG
AND CLOSURE SLEEVE RESPECTIVELY FOR STORAGE AND TRANSIT PURPOSES

AND CLOSURE SLEEVE RESPECTIVELY FOR STORAGE AND TRANSIT
CORROSION RESISTANCE

③ CORROSION RESISTANCE
240 HOURS MINIMUM OF NSS IS APPLICABLE FOR FASTENERS, CYLINDER ASSEMBLY,
RAM ASSEMBLY STEEL WASHER AND LOCK PLATE

RAM ASSEMBLY, STEEL WASHER AND LOCK WASHER.

- CRITICAL
- MAJOR
- NO SYMBOL - MINOR

CUSTOMER PART No.: F828960

CODE					PROTECTION		CONFIDENTIAL DRAWING THIS DRAWING IS THE SOLE PROPERTY OF WABCO. IT SHOULD NOT BE COPIED OR COMMUNICATED TO ANY PERSON WITHOUT THE WRITTEN APPROVAL OF WABCO.				GENERAL TOLERANCES						SCALE 1:1	PART NO. M 251 390	1/2
DRN	SIGN	DATE	MATERIAL	...	RANGE OF NOMINAL DIMENSIONS (\pm mm)						FORCE, POWER, PRESSURE etc.		WEDGE BRAKE ACTUATOR						
CHD	ASK	02.05.12	ALTERNATE MATERIAL	...	\leq 50	$>$ 50	$>$ 180	\leq 400	$>$ 400	(\pm $^{\circ}$)	(\pm %)								
APD	KPN	02.05.12	RAW PART NO.	...	1	2	3	4	3	10									
© 2003													100 mm						

WABCO INDIA LIMITED Research and Development Product specification	No. PS 60 C
PRODUCT: WEDGE BRAKE ACTUATOR (MAGIRUS AXLE)	Sheet 1 of 2

1. Scope:

This specification covers the function, technical data and also lays down the various endurance test, environmental tests and other tests the product shall pass.

2. Function:

This piston type cylinder is used to actuate Wedge type foundation brakes.

3. Technical data:

3.1	Working medium	Air
3.2	Normal working pressure	8.4 bar
3.3	Maximum working pressure	10 bar
3.4	Normal thermal range of operation	+ 10°C to + 50°C
3.5	Extreme thermal range of operation	- 25°C to + 70°C
3.6	Bore Diameter	90 mm
3.7	Stroke	32 mm
3.8	Installation dimensions	As per GA drawing
3.9	Output characteristics	As per GA drawing

4. Leak test:

At 8 bar pressure, the maximum permissible leakage is 10 cc/min (at standard atmospheric condition.)

5. Endurance test:

5.1 The unit is subjected to endurance test of 10^6 cycles as follows:

- 1) 4 cycles at 3 bar
- 2) 1 cycles at 8 bar

Test conditions:

- 1) Operating stroke : 25 mm
- 2) Frequency : 30 cycles/min.

At the end of endurance test, when leak test is carried out as per clause 4, the leakage shall not exceed 1000cc/min (at standard atmospheric conditions).

Compiled by	SATH	Issue no.	1	2	3	
Checked by	ASK	ECN no.	-	-	12325	
Approved by	KPN	Date	-	01.07.99	02.05.12	

WABCO INDIA LIMITED Research and Development Product specification	No. PS 60 C
PRODUCT: WEDGE BRAKE ACTUATOR (MAGIRUS AXLE)	Sheet 2 of 2

6. Environmental tests:

6.1 Dry heat test:

The unit is kept in a chamber maintained at a temperature of 70°C for 16 hours. After this period, it shall pass leak test as per clauses 4.

6.2 Low temperature test:

The unit is kept in a chamber maintained at a temperature of - 25°C for 16 hours. After this period, it shall pass leak test as per clauses 4.

6.3 Salt spray test:

Test unit to be tested as assembly, as per ASTM B 117. Corrosion resistance requirement to meet as per GA drawing. No parent metal corrosion permitted after the test. Corrosion of fasteners, which are not detrimental to product performance, is acceptable. The unit shall be subjected to leak test and performance test as per clause nos. 4 and 3.9 before and after the test.

7. Vibration test:

The unit is subjected to a vibration at an acceleration of $\pm 16g$ at 50HZ. The unit shall withstand a minimum of 10^6 cycles without any structural failure.

8. High pressure test:

This unit is subjected to a pneumatic pressure of 16 bar for 2 minutes. The unit shall then pass leak test as per clause 4.

Compiled by	SATH	Issue no.	1	2	3	
Checked by	ASK	ECN no.	-	-	12325	
Approved by	KPN	Date	-	01.07.99	02.05.12	

SIGN	DATE	MATERIAL
DRN	SATH	02.05.12	ALTERNATE MATERIAL
CHD	ASK	02.05.12	SURFACE PROTECTION
APD	KPN	02.05.12	RAW PART No.

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UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN mm.
REMOVE BURRS AND SHARP EDGES FROM FINISHED PARTS.
ALL DIMENSIONS ARE AFTER SURFACE PROTECTION/ TREATMENT
MALE THREAD TO IS 14962 (PART3) 6H : 2001
FEMALE THREAD TO IS 14962 (PART3) 6H : 2001

GENERAL TOLERANCES				SCALE 1:1
RANGE OF NOMINAL DIMENSIONS (\pm mm)		FORCE, POWER, PRESSURE etc.		
\leq 50	\leq 180	\leq 400	\leq 100	
1	2	3	4	\pm (%)
		3	10	

WABCO
AMBATTUR, CHENNAI - 600058, INDIA
WEDGE BRAKE ACTUATOR

PART No.
M 251390_S2
GA
2/2