



SPRINTEX® SUPERCHARGERS

Series 5

S5 – 150 , S5 – 210 , S5 – 335



THE PRODUCT

Sprintex Series 5 Supercharger Range

Series 5 Superchargers: S5-150, S5-210, S5-335

1. Specifications

Model No.	S5 – 150		S5 – 210		S5 – 335	
	SI Units (Metric)	Imperial Units	SI Units (Metric)	Imperial units	SI Units (Metric)	Imperial units
Dimensions (short drive)	Length 204 mm Width 144 mm Height 94 mm	8.04 in 5.67 in 3.70 in	Length 240 mm Width 185 mm Height 119 mm	9.46 in 7.29 in 4.69 in	Length 301 mm Width 185 mm Height 119 mm	9.46 in 7.29 in 4.69 in
Available Drive Extensions	100 mm 127 mm 161 mm	3.94 in 5.00 in 6.34 in	100 mm 150 mm 200 mm	3.94 in 5.00 in 6.34 in	100 mm 150 mm 200 mm	3.94 in 5.00 in 6.34 in
Weight (Kg)	4.5 kg	9.92 lb	9.3 kg	20.50 lb	10.9 kg	24.03 lb
Displacement	0.59 Litres/rev	36 Cubic inches/rev	0.94 Litres/rev	57 Cubic inches/rev	1.46 Litres/rev	89 Cubic inches/rev
Max Air Flow	150 Litres/sec	318 Cubic feet/min	210 Litres/sec	445 Cubic feet/min	335 Litres/sec	710 Cubic feet/min
Built in Pressure Ratio	1.4PR		1.4 & 1.8PR		1.4 & 1.8PR	
Max RPM (continuous)	16,000 rpm		15,000 rpm		15,000 rpm	

Table 1 Supercharger specifications

2. Standards

Full load performance characteristics of Sprintex Series 5 screw type superchargers have been obtained based on the tests conducted on test rigs built to the SAE standard SAE J1723.

As per the SAE standard, supercharger speed, pressure ratio, corrected air flow, temperature differential, etc. were recorded at each test point, computations carried out and results are provided in line with the standard.

The SI system of units applies throughout this report. Imperial units are also given when appropriate.

3. Internal views of Typical Sprintex Superchargers

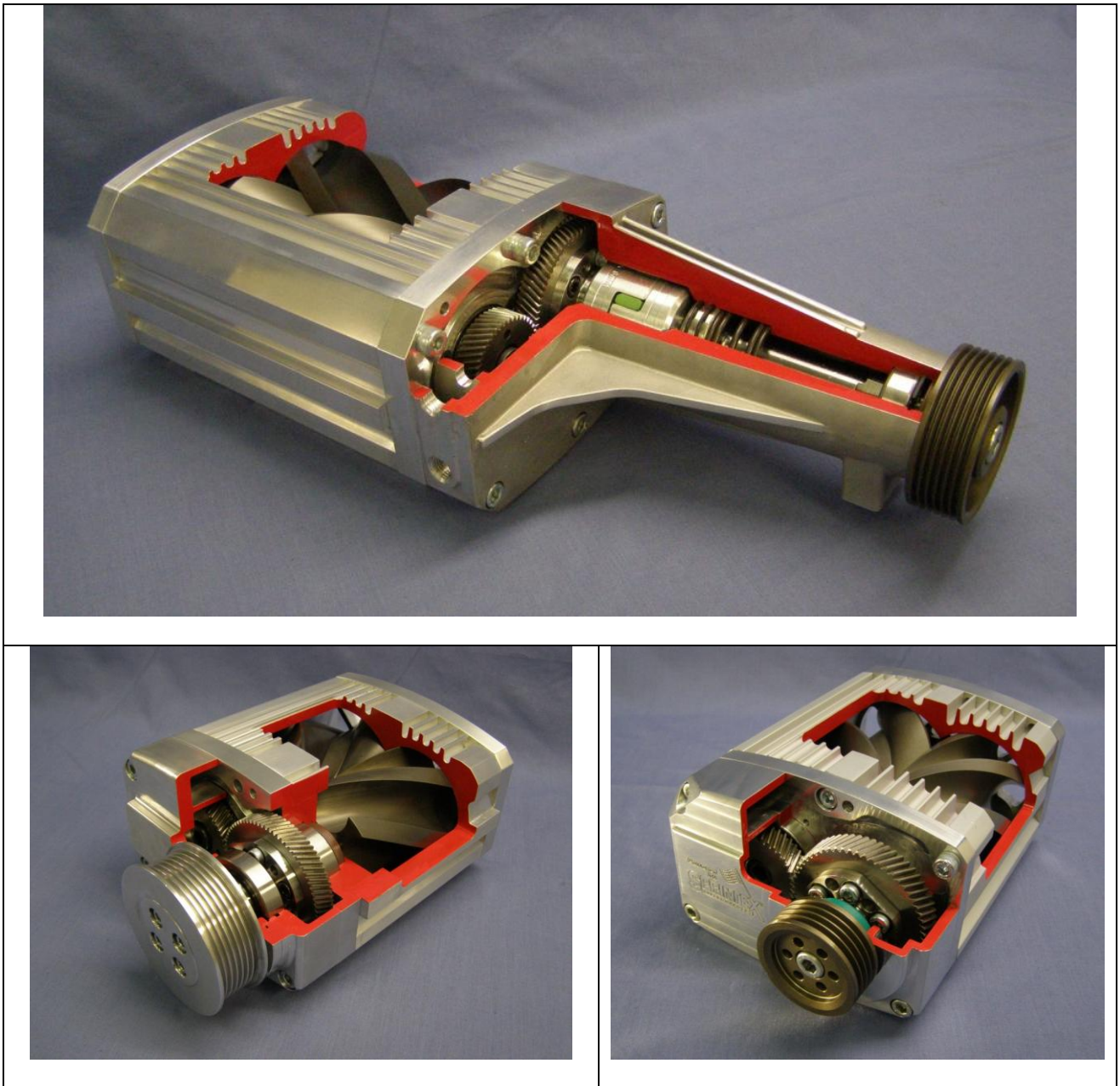


Figure 1 Typical Sprintex superchargers cut-out to expose internal parts

Supercharger S5-150



Front view showing the rotor pulley

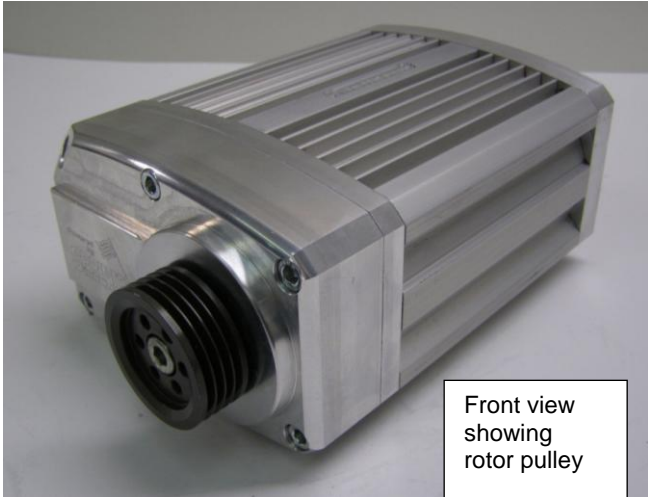


Rear view showing the intake plate / port



Side view showing the discharge port

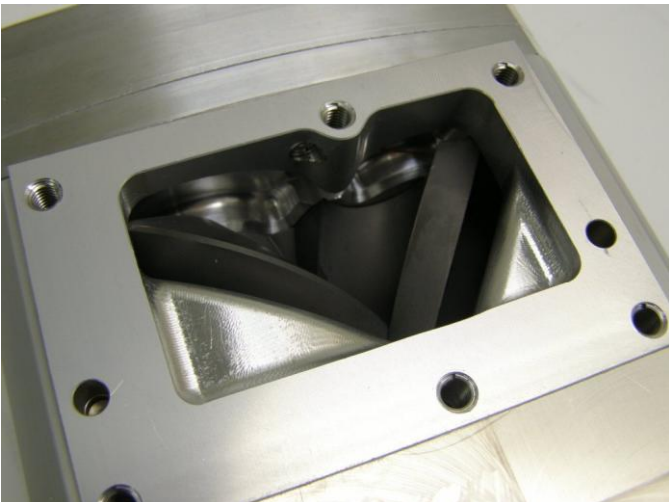
Figure 2 Views of the Supercharger S5 – 150



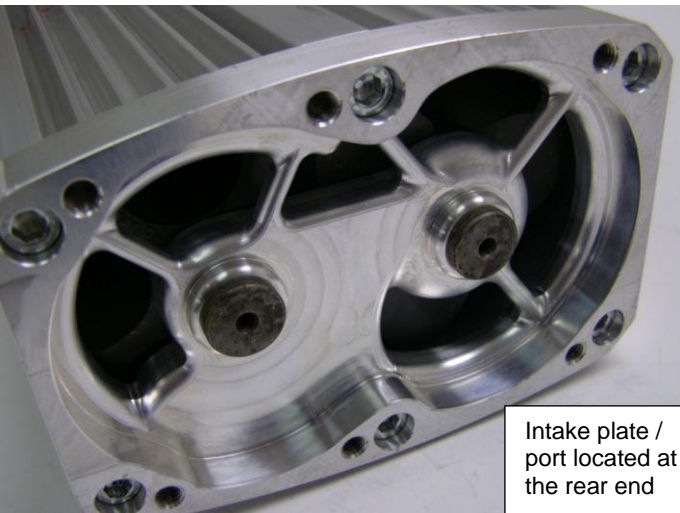
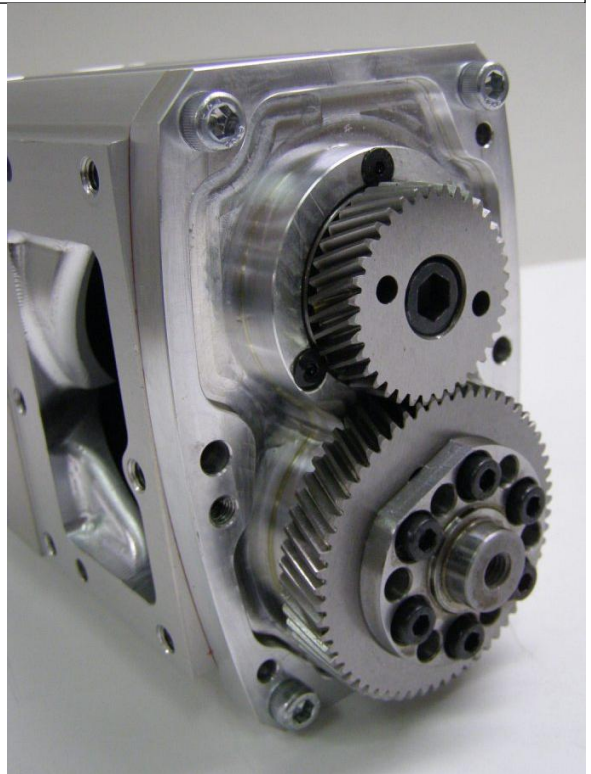
Front view showing rotor pulley



Front cover with pulley removed to expose gears



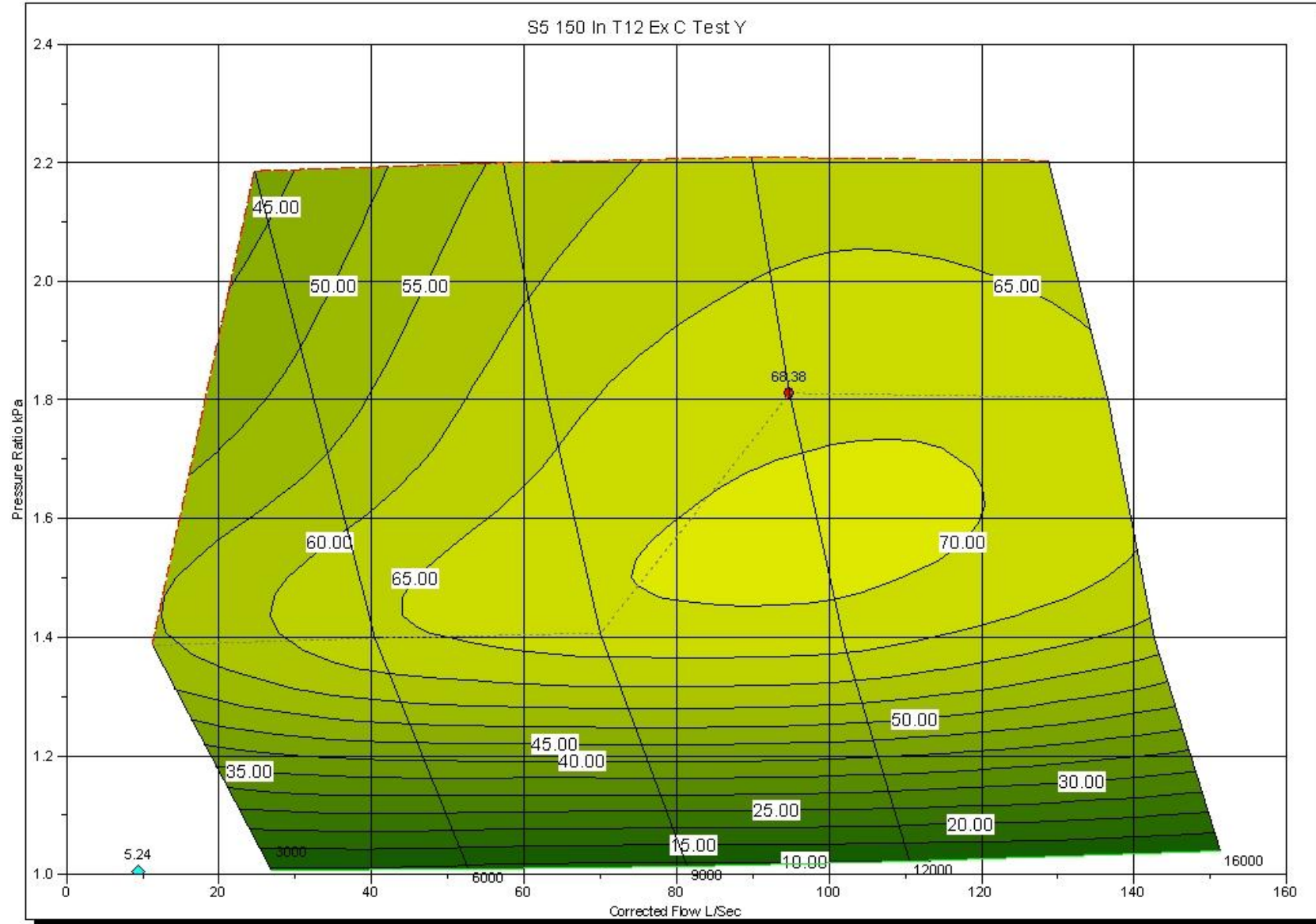
Internal rotors seen through the discharge port



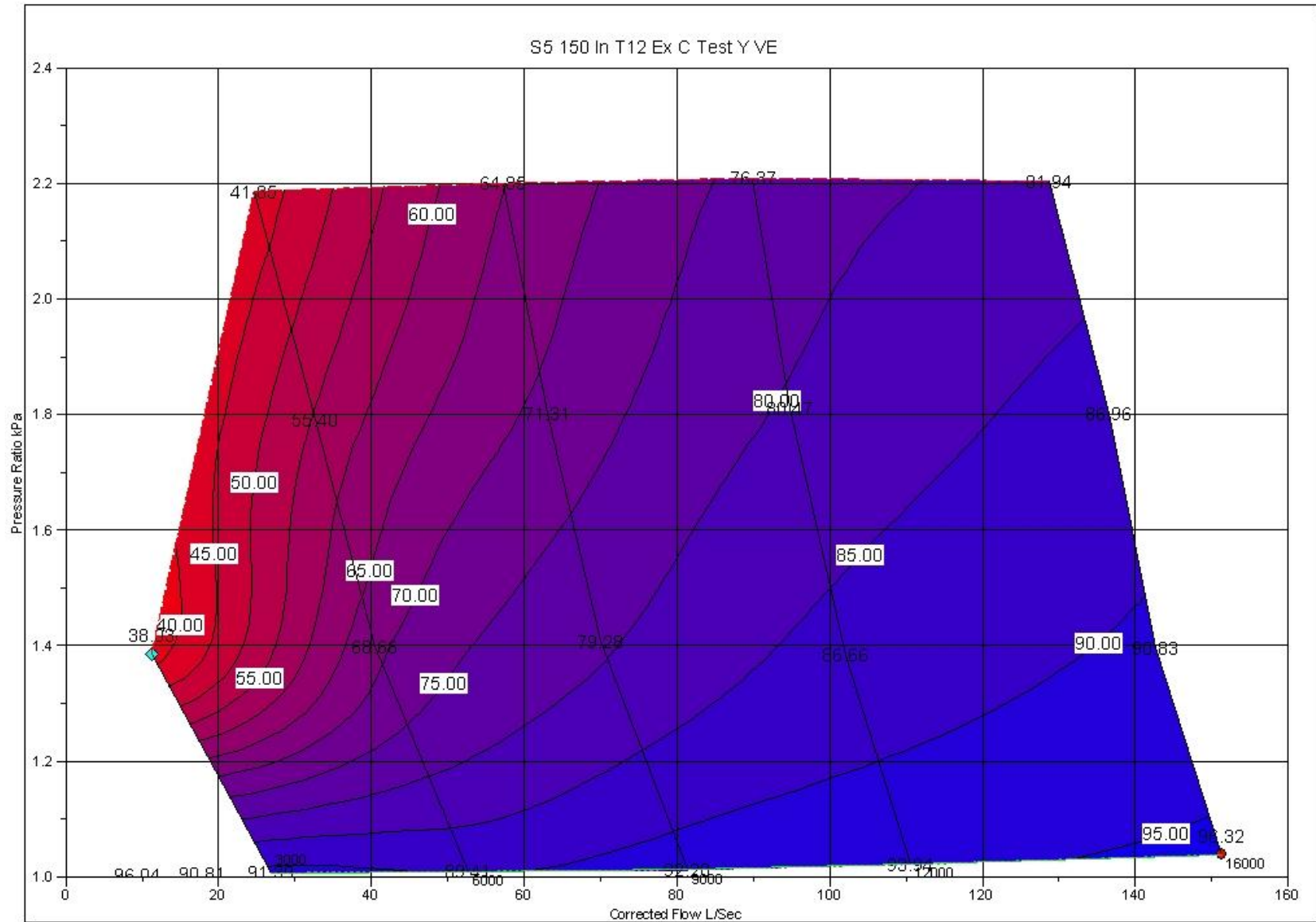
Intake plate / port located at the rear end

Figure 3 More views of the Supercharger S5 – 150

S5 - 150 Isentropic Efficiency versus supercharger speed at various pressure ratio

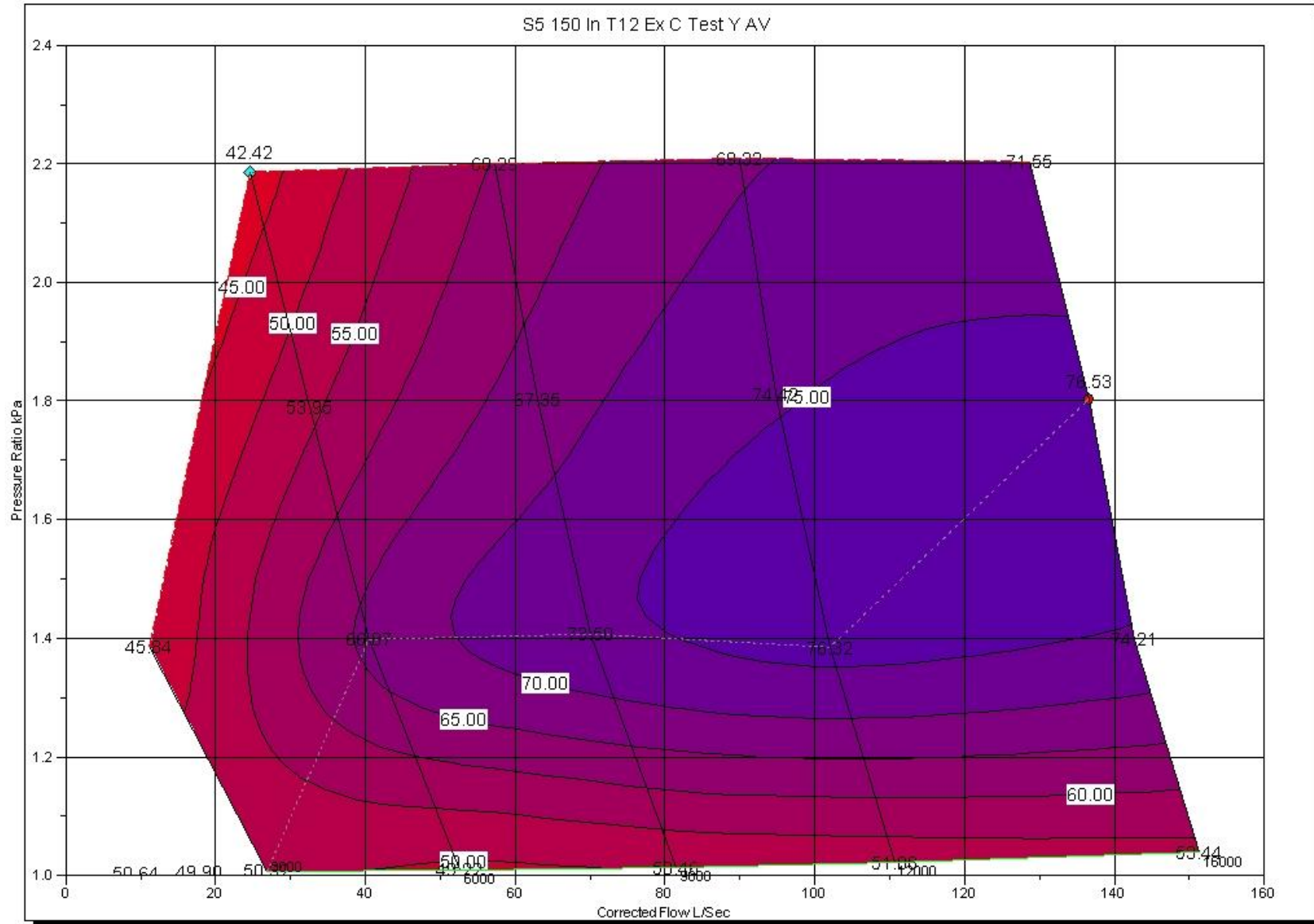


S5 - 150 Volumetric efficiency versus supercharger speed at various pressure ratio

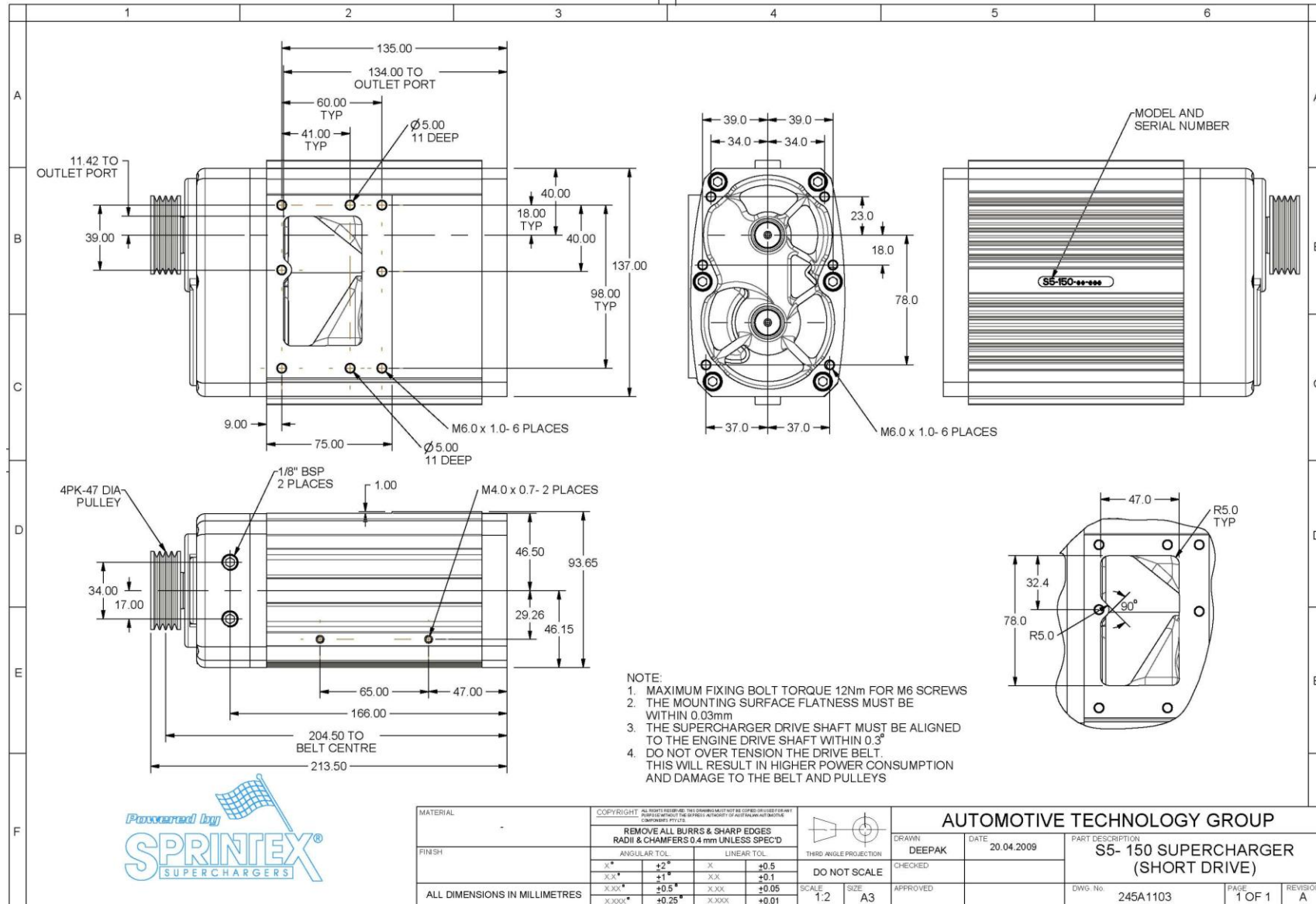


S5-150

Average supercharger efficiency at various speed and pressure ratio



Supercharger S5 - 150



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	REMOVE ALL BURRS & SHARP EDGES RADI & CHAMFERS 0.4 mm UNLESS SPEC'D					DRAWN DEEPAK	DATE 20.04.2009	PART DESCRIPTION S5- 150 SUPERCHARGER (SHORT DRIVE)
FINISH	ANGULAR TOL		LINEAR TOL		DO NOT SCALE	CHECKED	APPROVED	DWG. No. 245A1103
	X*	+2*	X	+0.5				
ALL DIMENSIONS IN MILLIMETRES		X.X*	+1*	X.X	SCALE 1:2	SIZE A3		
		X.XX*	+0.5*	X.XX				
		X.XXX*	+0.25*	X.XXX				

Supercharger S5-210



Front view showing the medium length extension housing with rotor pulley



Front view showing the discharge port



Side view showing the intake plate / port

Figure 4 Views of the Supercharger S5– 210

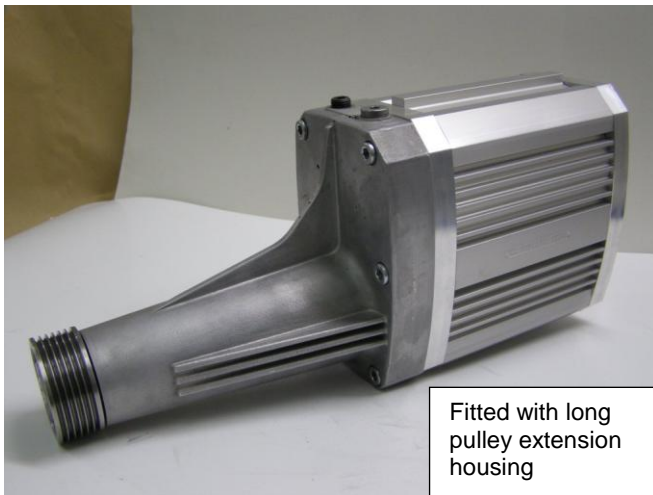
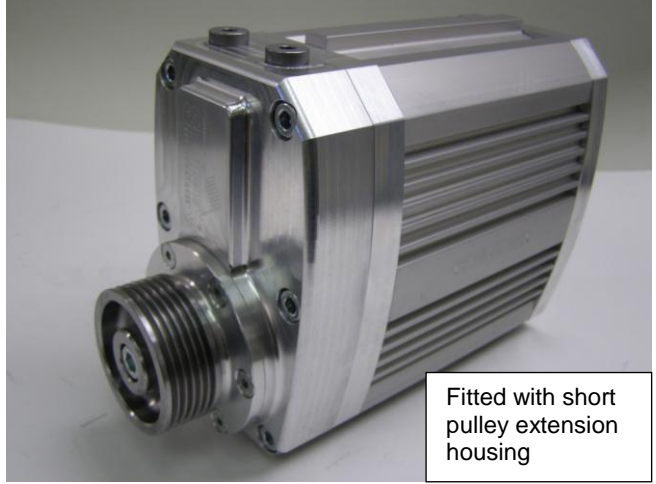
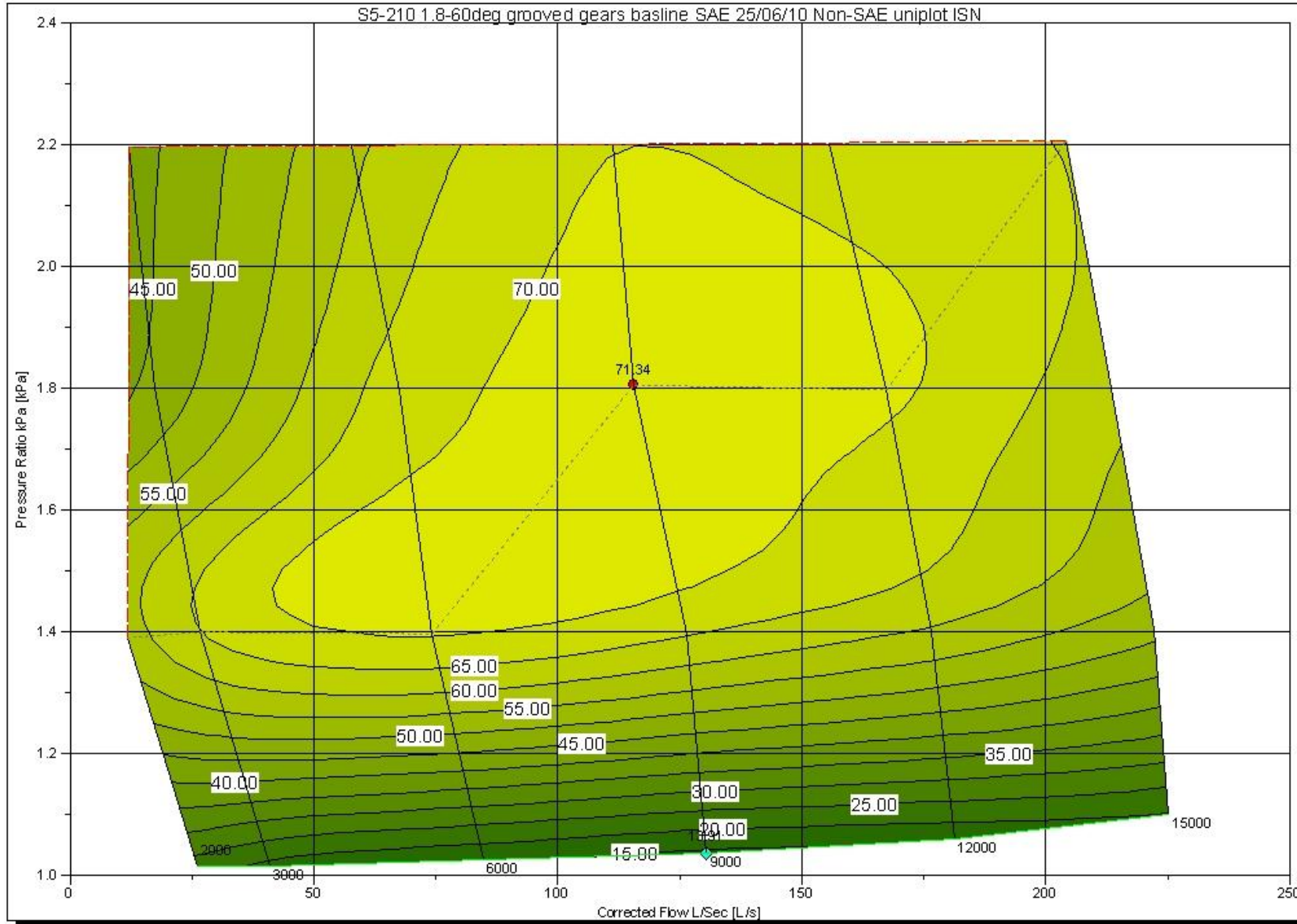
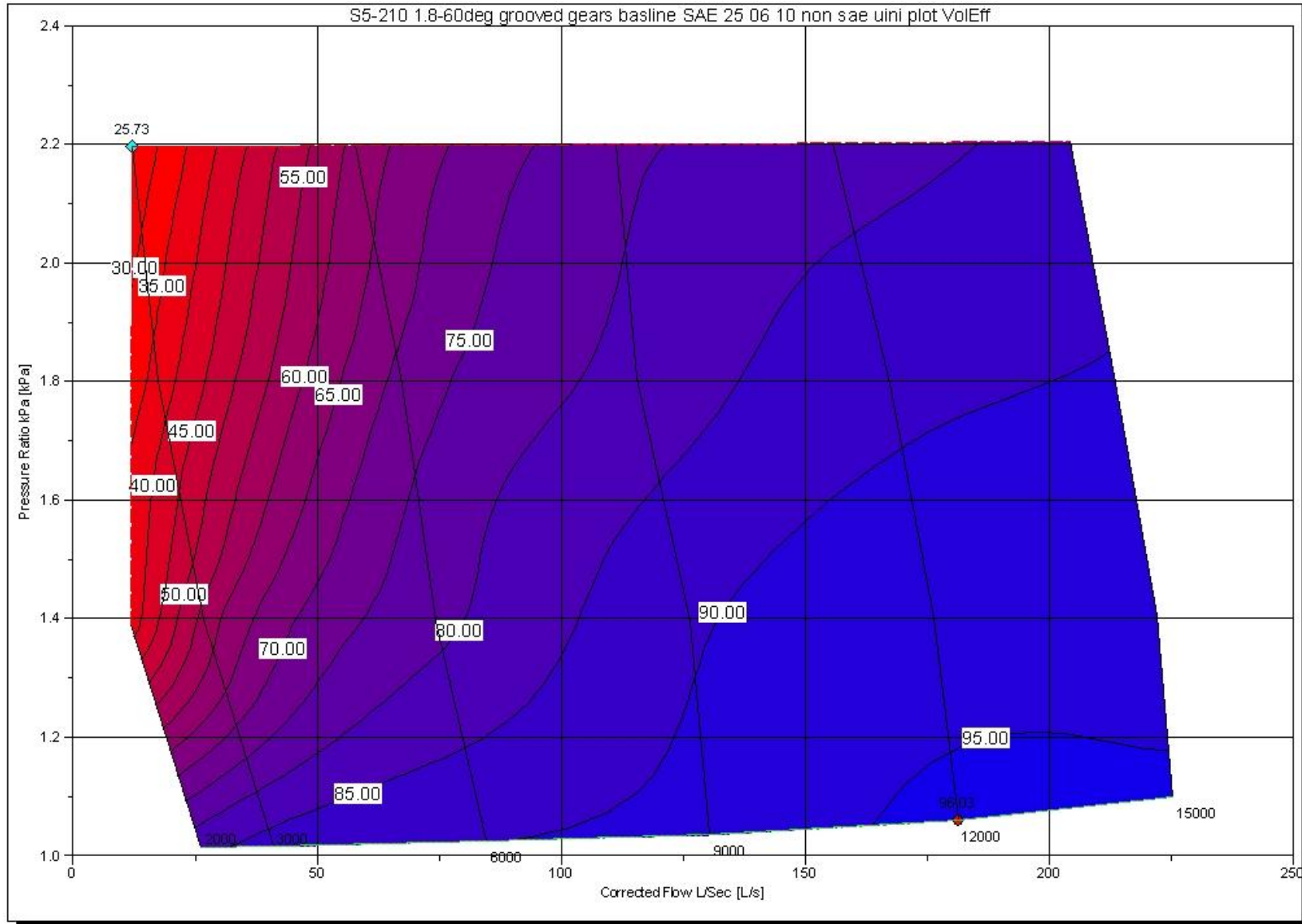


Figure 5 More views of the Supercharger S5– 210

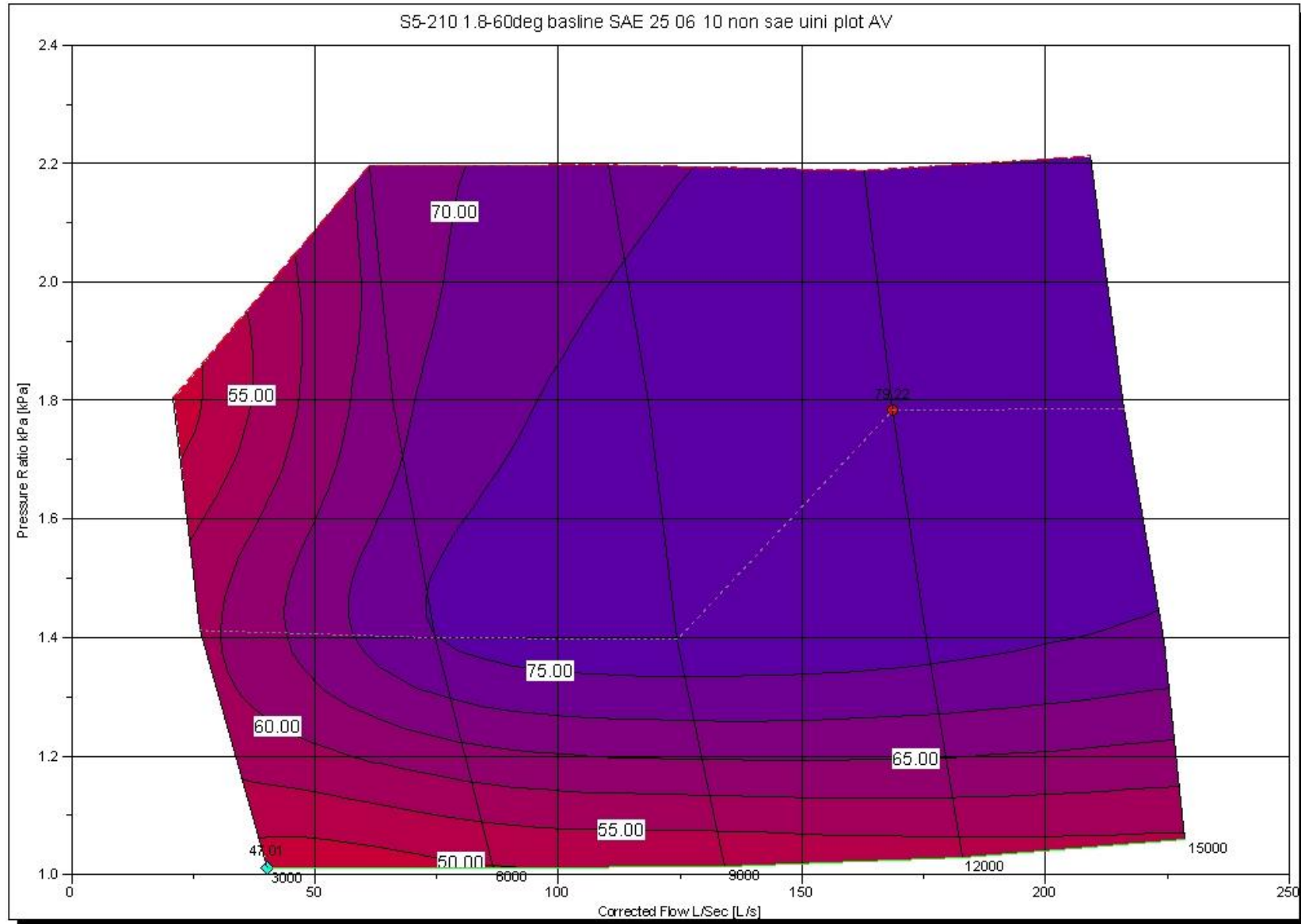
S5 - 210
Isentropic efficiency versus supercharger speed at various pressure ratio



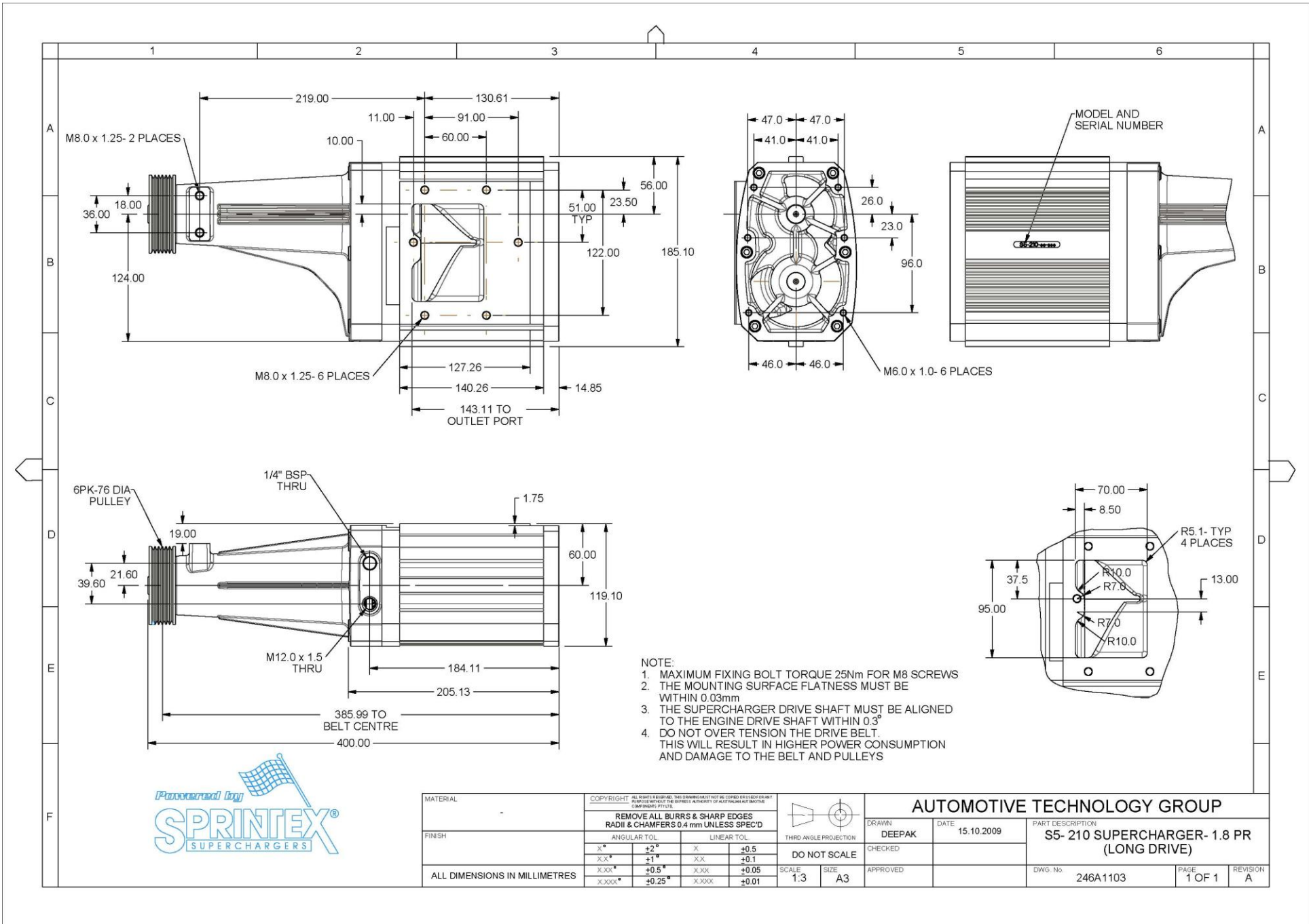
S5 - 210
Volumetric efficiency versus supercharger speed at various pressure ratio



S5 - 210
Average supercharger efficiency at various speed and pressure ratio



Supercharger S5 – 210

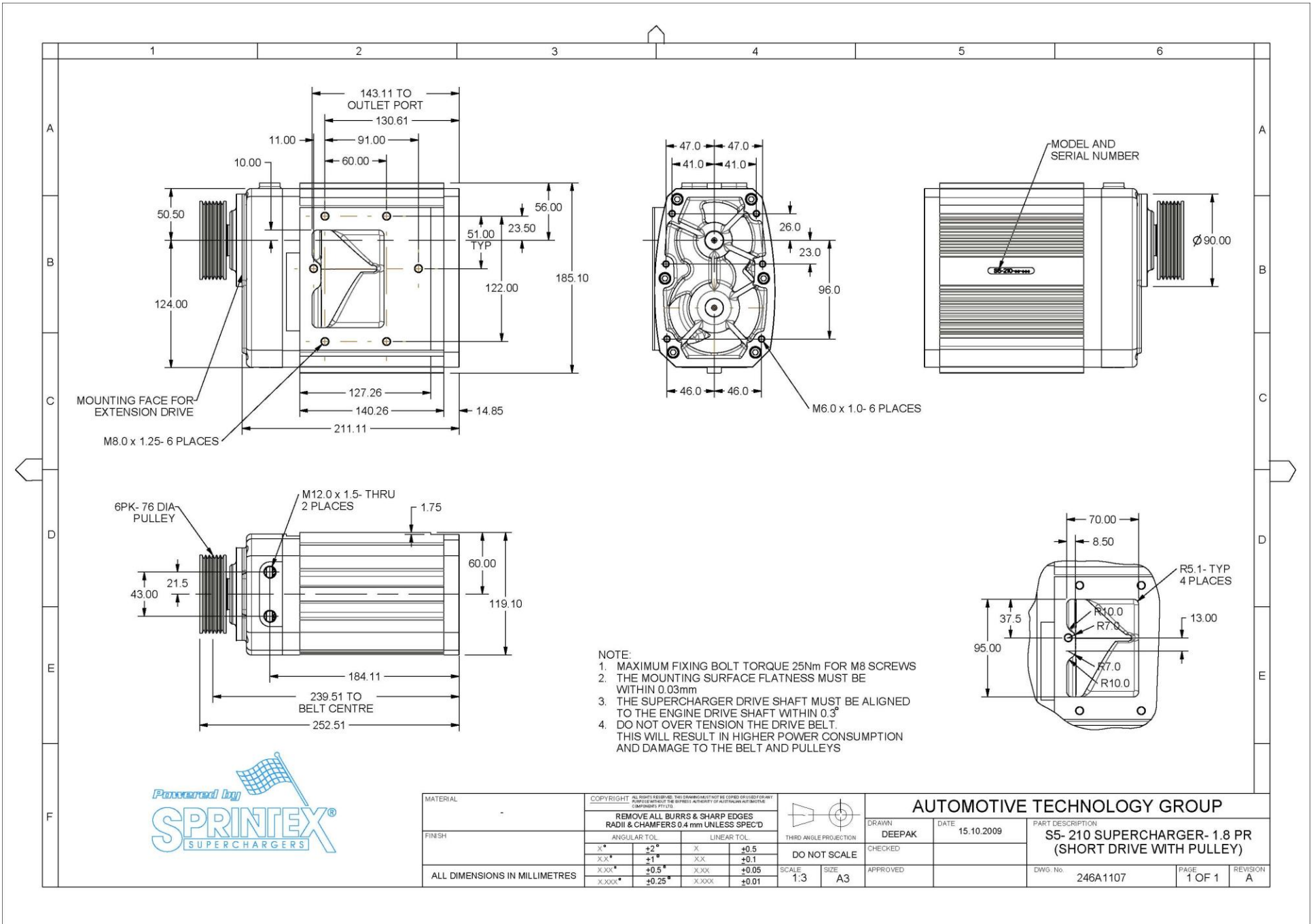


- NOTE:
1. MAXIMUM FIXING BOLT TORQUE 25Nm FOR M8 SCREWS
 2. THE MOUNTING SURFACE FLATNESS MUST BE WITHIN 0.03mm
 3. THE SUPERCHARGER DRIVE SHAFT MUST BE ALIGNED TO THE ENGINE DRIVE SHAFT WITHIN 0.3°
 4. DO NOT OVER TENSION THE DRIVE BELT. THIS WILL RESULT IN HIGHER POWER CONSUMPTION AND DAMAGE TO THE BELT AND PULLEYS

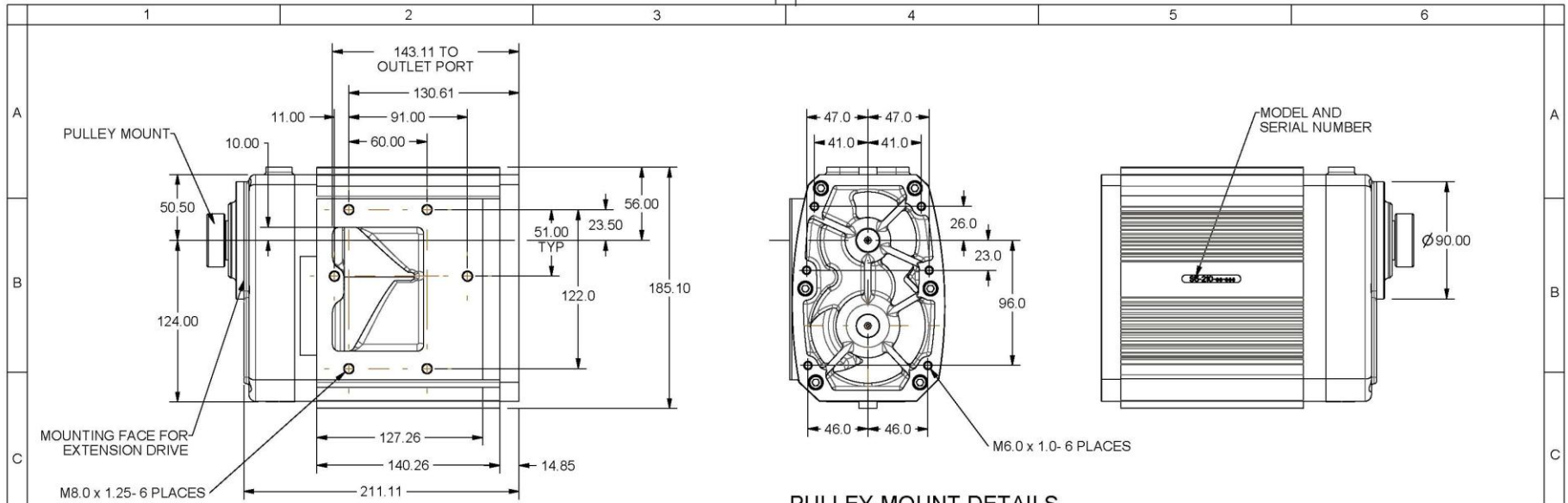


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FINISH	REMOVE ALL BURRS & SHARP EDGES RADII & CHAMFERS 0.4 mm UNLESS SPEC'D				SCALE: 1:3 SIZE: A3		DRAWN: DEEPAK CHECKED:	DATE: 15.10.2009	PART DESCRIPTION: S5- 210 SUPERCHARGER- 1.8 PR (LONG DRIVE)	
	ANGULAR TOL		LINEAR TOL		DO NOT SCALE		APPROVED	DWG. No.	PAGE	REVISION
	x*	+2*	x	+0.5				246A1103	1 OF 1	A
	xx*	+1*	xx	+0.1						
	xxx*	+0.5*	xxx	+0.05						
	xxxx*	+0.25*	xxxx	+0.01						
ALL DIMENSIONS IN MILLIMETRES										

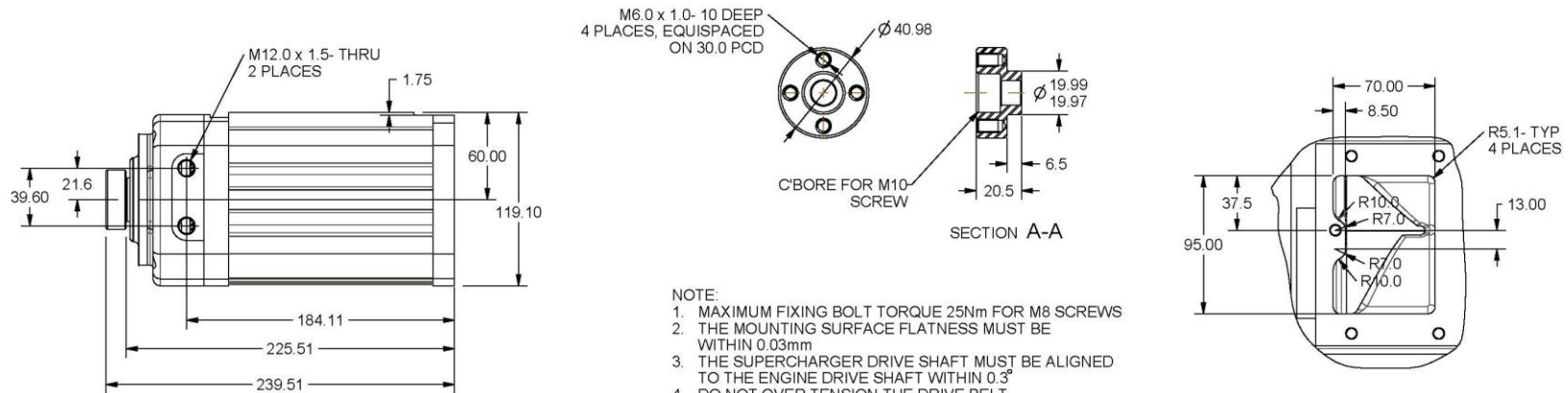
Supercharger S5 – 210



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FINISH	REMOVE ALL BURRS & SHARP EDGES RADII & CHAMFERS 0.4 mm UNLESS SPEC'D				DRAWN		DEEPAK	DATE	15.10.2009	PART DESCRIPTION	
	ANGULAR TOL		LINEAR TOL		CHECKED		S5- 210 SUPERCHARGER- 1.8 PR (SHORT DRIVE WITH PULLEY)				
	X*	+2*	X	+0.5	DO NOT SCALE		DWG. No.				
	XX*	+1*	XX	+0.1	SCALE	SIZE	APPROVED	246A1107	PAGE	1 OF 1	REVISION
ALL DIMENSIONS IN MILLIMETRES				XXX*	+0.5*	XXXX	+0.05				
				XXXX*	+0.25*	XXXX	+0.01				



PULLEY MOUNT DETAILS



- NOTE:**
1. MAXIMUM FIXING BOLT TORQUE 25Nm FOR M8 SCREWS
 2. THE MOUNTING SURFACE FLATNESS MUST BE WITHIN 0.03mm
 3. THE SUPERCHARGER DRIVE SHAFT MUST BE ALIGNED TO THE ENGINE DRIVE SHAFT WITHIN 0.3°
 4. DO NOT OVER TENSION THE DRIVE BELT. THIS WILL RESULT IN HIGHER POWER CONSUMPTION AND DAMAGE TO THE BELT AND PULLEYS



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FINISH	REMOVE ALL BURRS & SHARP EDGES RADII & CHAMFERS 0.4 mm UNLESS SPEC'D		THIRD ANGLE PROJECTION	DO NOT SCALE
	ANGULAR TOL	LINEAR TOL	SCALE	SIZE
	X°	+2°	1:3	A3
	XX°	+1°		
	XXX°	+0.5°		
	XXXX°	+0.25°		
ALL DIMENSIONS IN MILLIMETRES				
	DRAWN	DATE	PART DESCRIPTION	
	DEEPAK	20.04.2009	S5- 210 SUPERCHARGER- 1.8PR (SHORT DRIVE)	
	CHECKED		DWG. No.	PAGE
			246A1105	1 OF 1
	APPROVED			REVISION
				A

Supercharger S5-335



Front view showing the long extension housing with pulley



Rear view showing the intake plate / port



Side view showing the discharge port

Figure 6 Views of the Supercharger S5 – 335

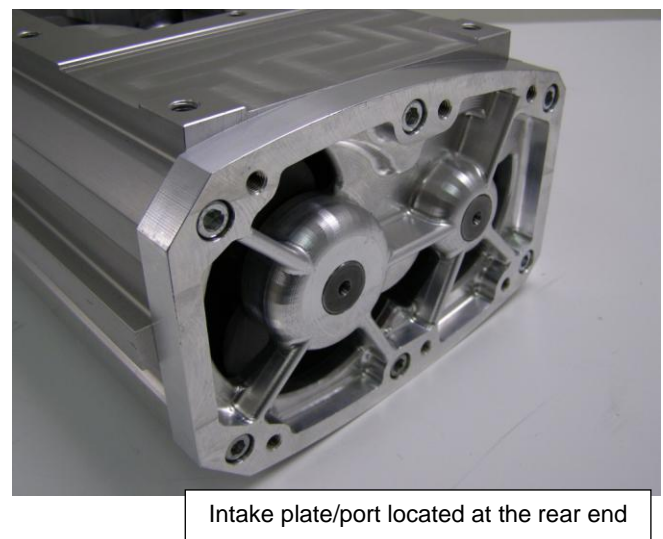
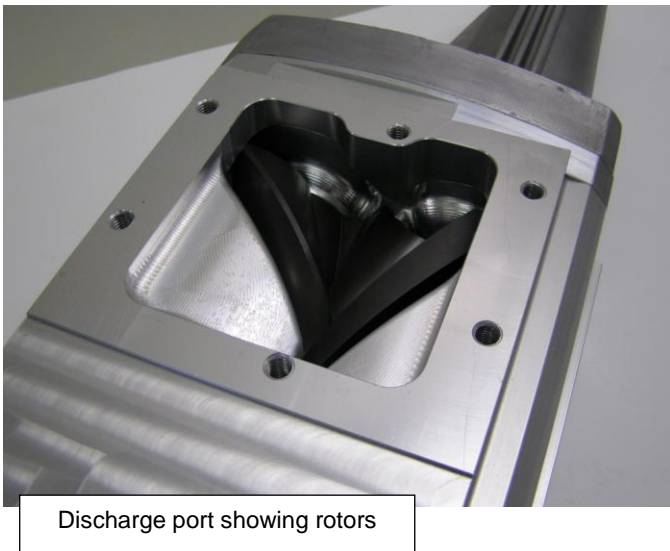
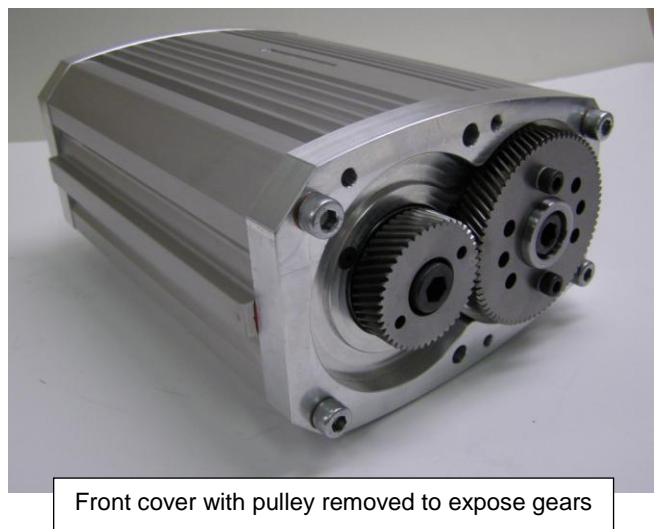
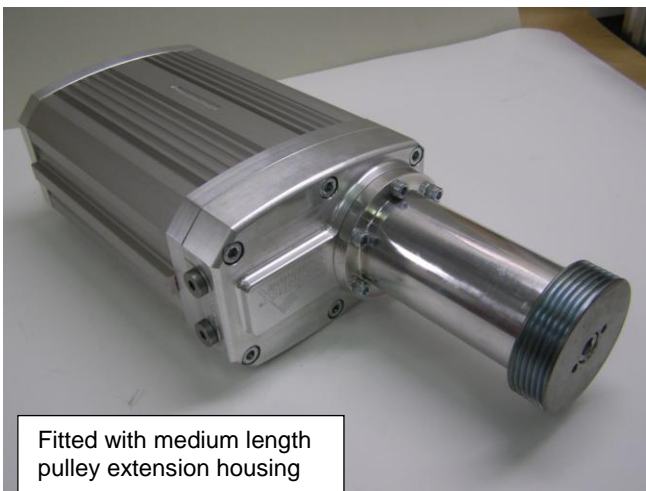
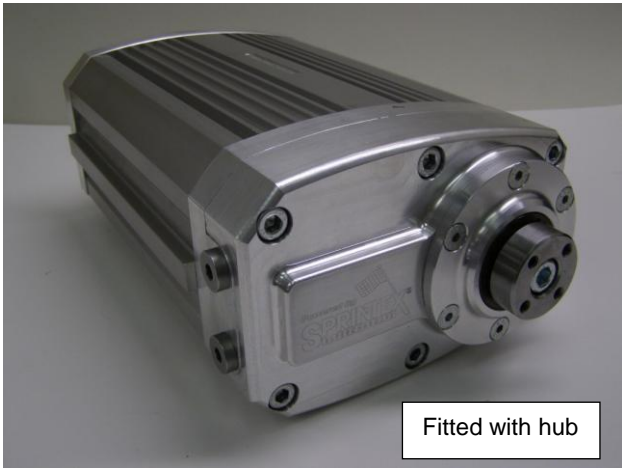
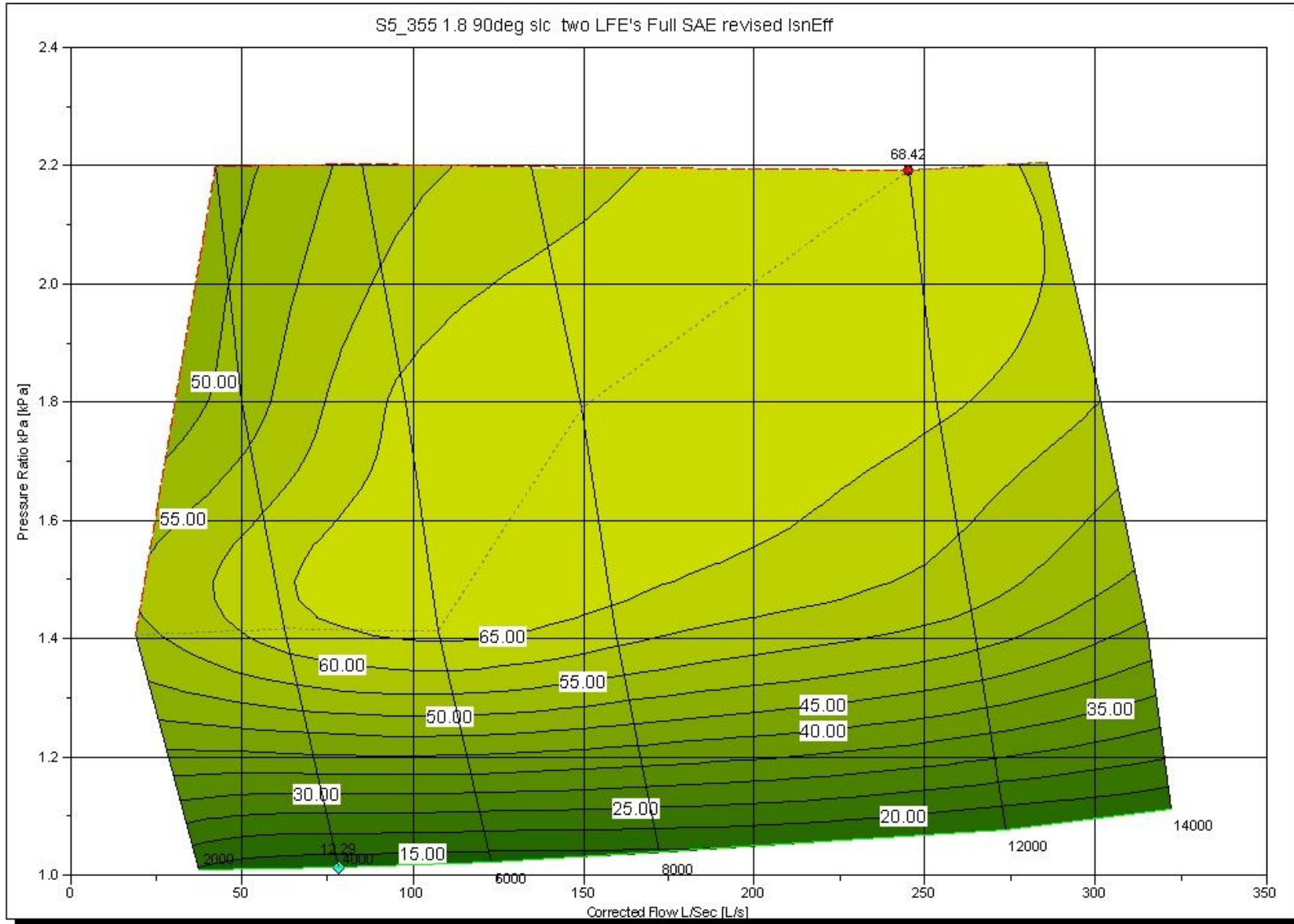
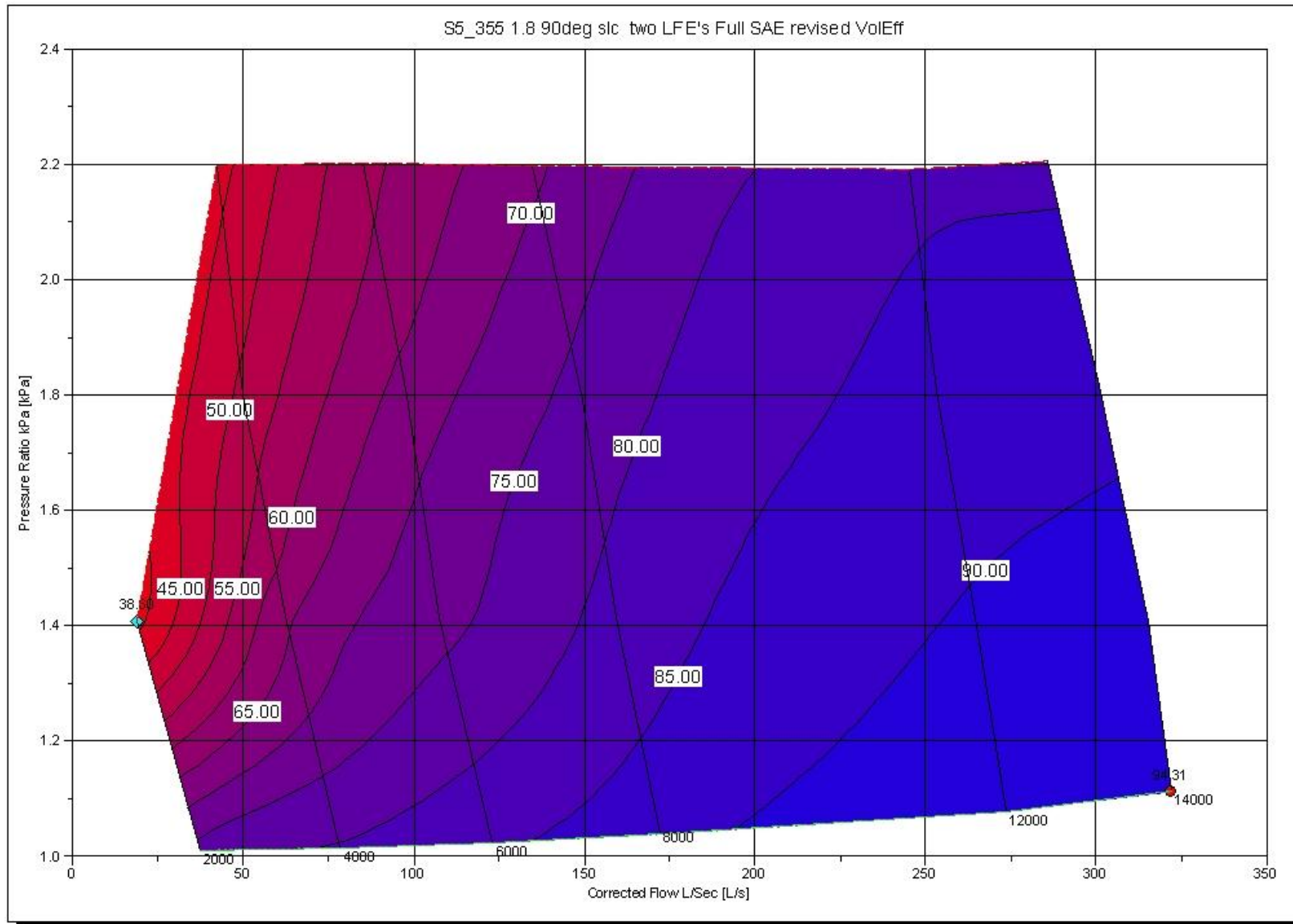


Figure 7 More views of the Supercharger S5 – 335

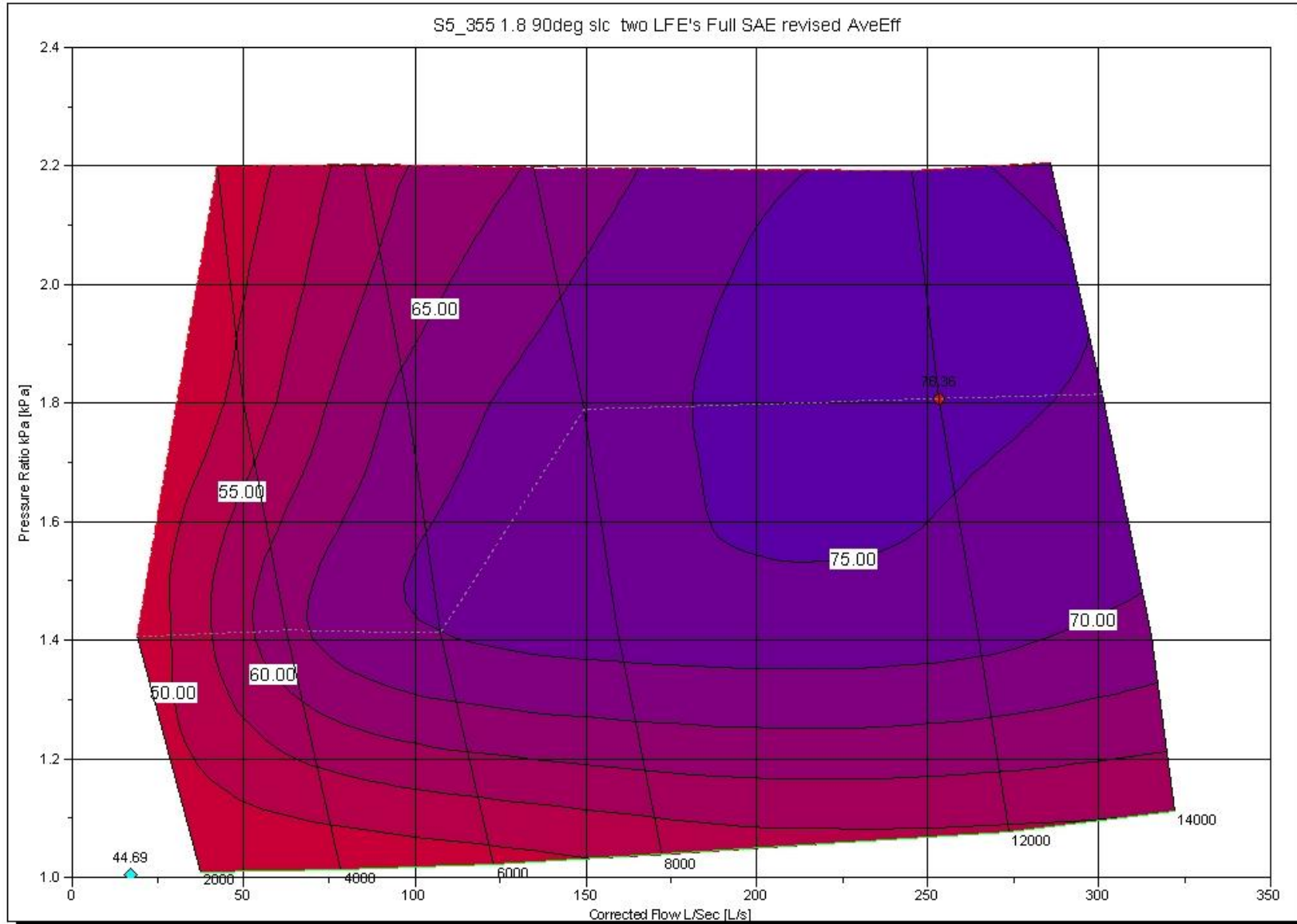
S5 - 335 Isentropic efficiency versus supercharger speed at various pressure ratio



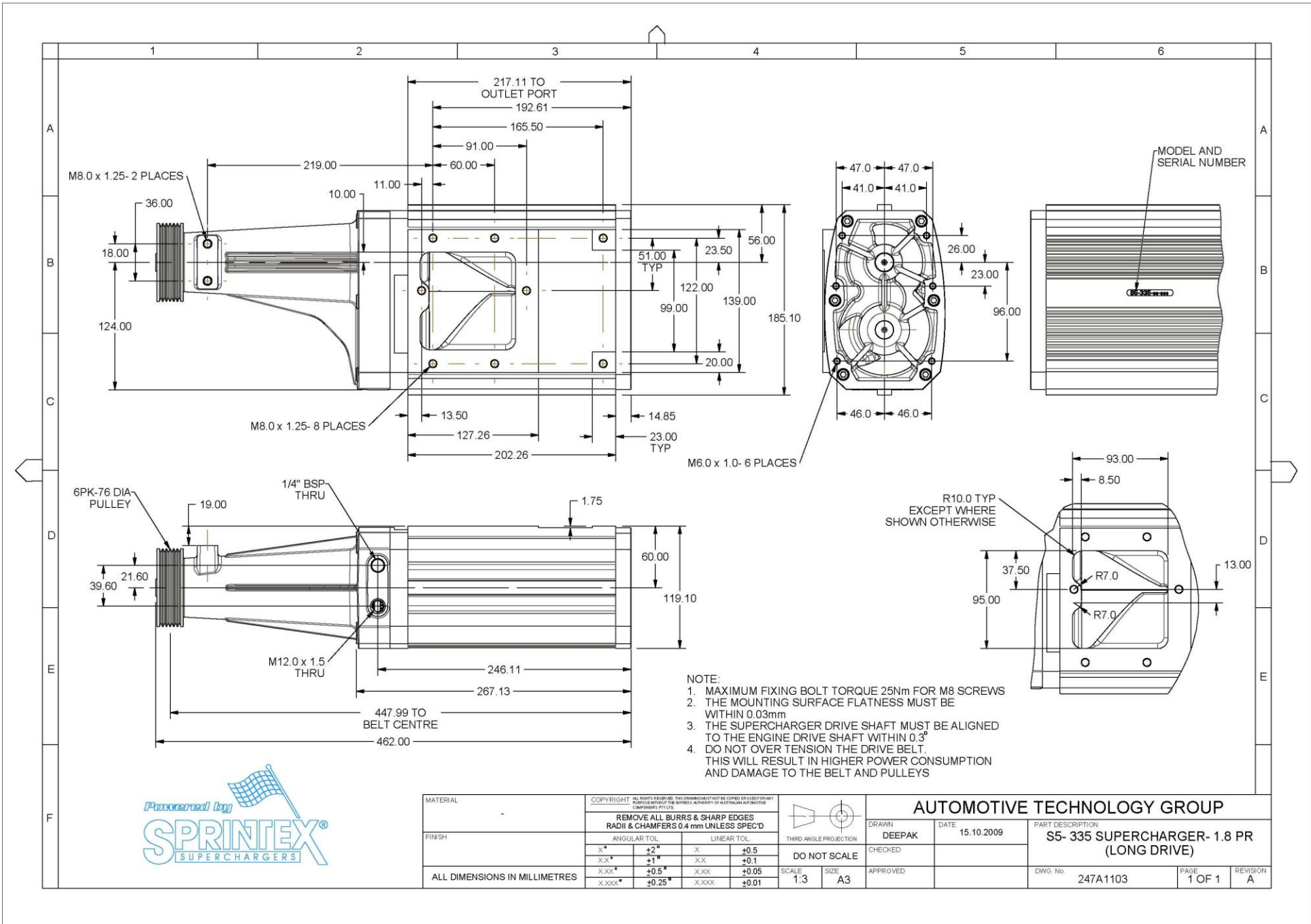
S5 - 335 Volumetric efficiency versus supercharger speed at various pressure ratio



S5 - 335
Average supercharger efficiency at various speed and pressure ratio



Supercharger S5 – 335

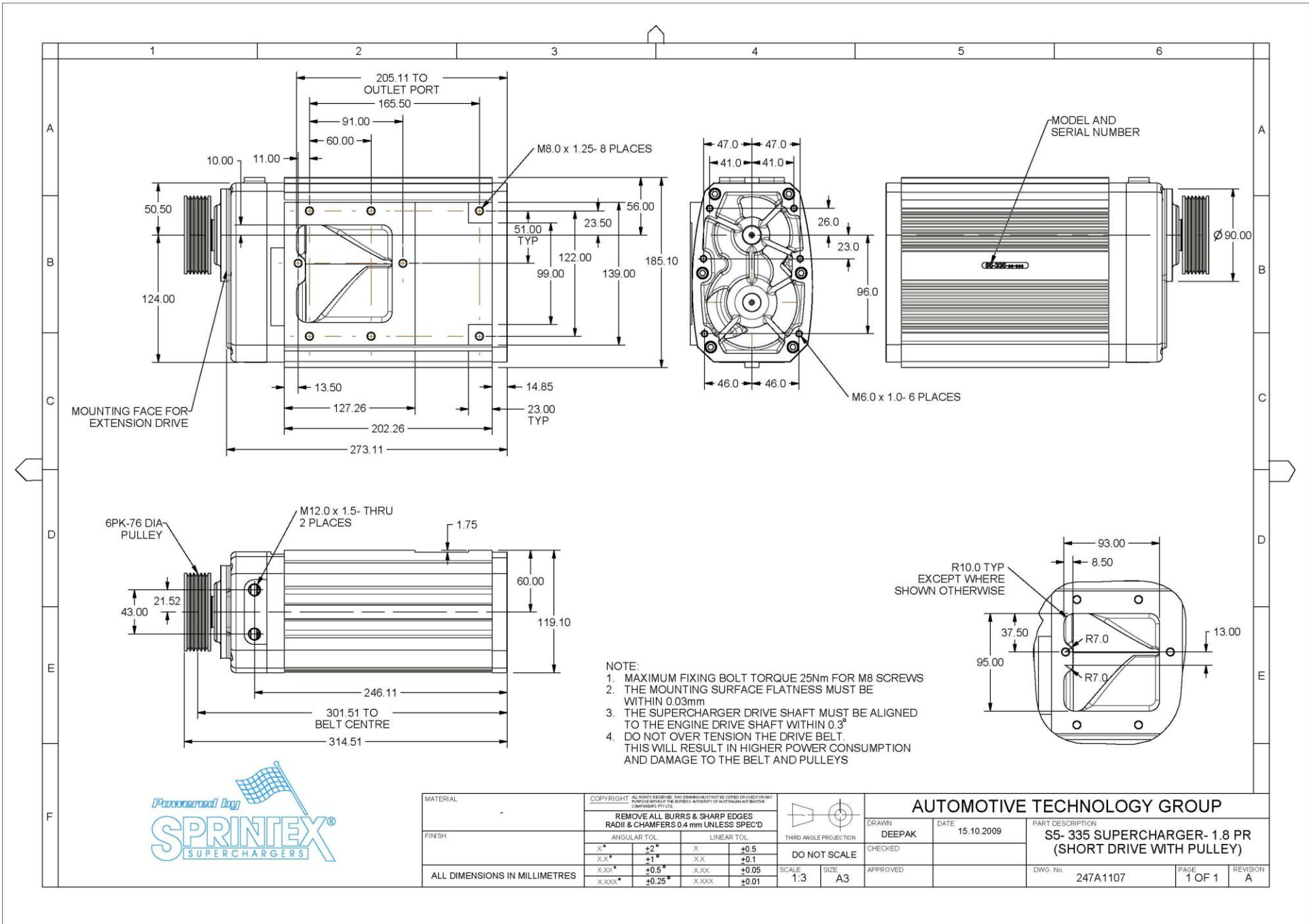


- NOTE:
1. MAXIMUM FIXING BOLT TORQUE 25Nm FOR M8 SCREWS
 2. THE MOUNTING SURFACE FLATNESS MUST BE WITHIN 0.03mm
 3. THE SUPERCHARGER DRIVE SHAFT MUST BE ALIGNED TO THE ENGINE DRIVE SHAFT WITHIN 0.3°
 4. DO NOT OVER TENSION THE DRIVE BELT. THIS WILL RESULT IN HIGHER POWER CONSUMPTION AND DAMAGE TO THE BELT AND PULLEYS

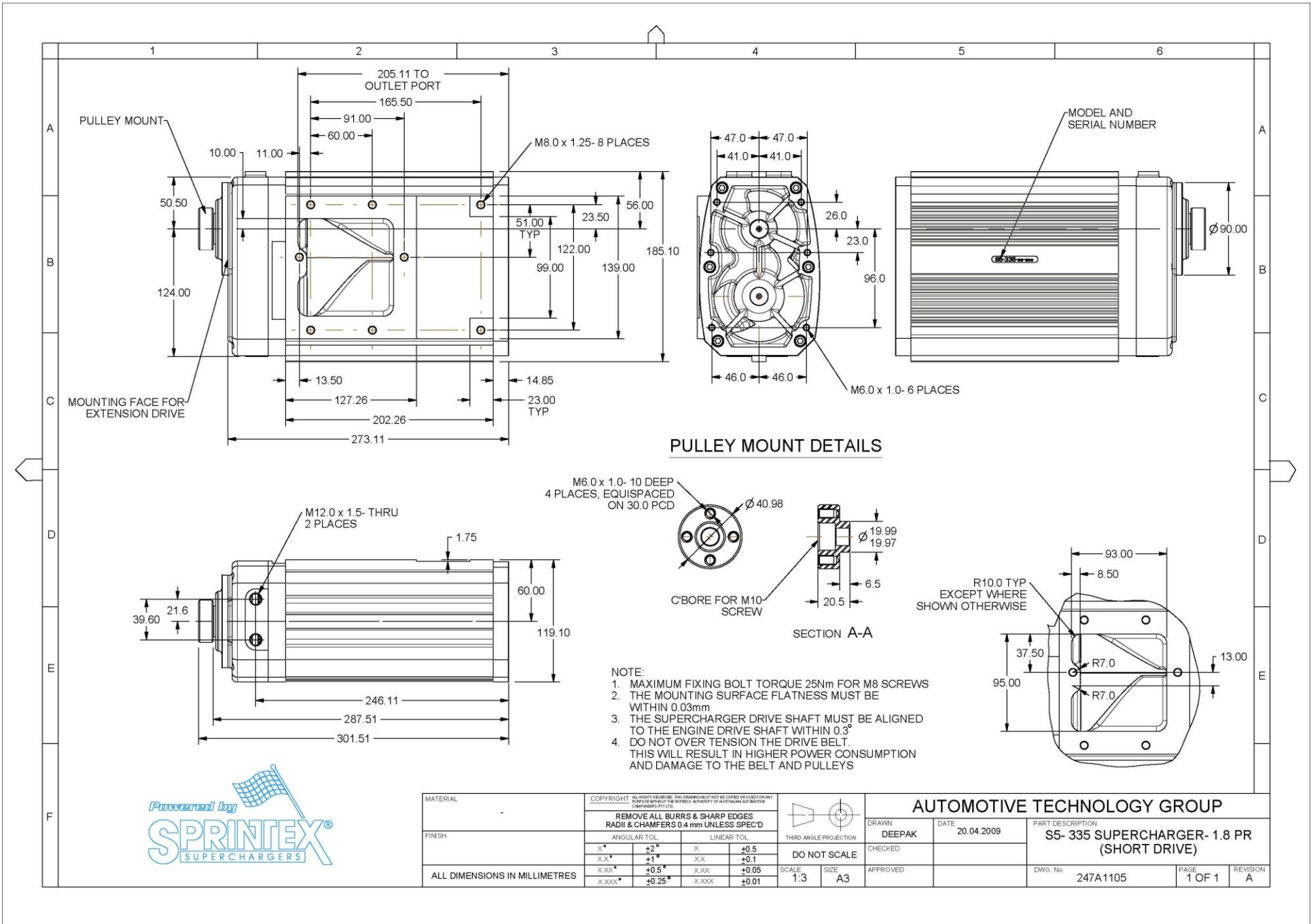


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FINISH	REMOVE ALL BURRS & SHARP EDGES RADII & CHAMFERS 0.4 mm UNLESS SPEC'D				 DO NOT SCALE		DRAWN DEEPAK	DATE 15.10.2009	PART DESCRIPTION S5- 335 SUPERCHARGER- 1.8 PR (LONG DRIVE)	
ALL DIMENSIONS IN MILLIMETRES	ANGULAR TOL		LINEAR TOL		SCALE	SIZE	APPROVED	DWG. No.	PAGE	REVISION
	x*	+2*	x	+0.5	1:3	A3		247A1103	1 OF 1	A
	xx*	+1*	xx	+0.1						
	xxx*	+0.5*	xxx	+0.05						
	xxxx*	+0.25*	xxxx	+0.01						

Supercharger S5 – 335

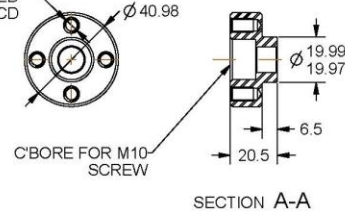


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FINISH	REMOVE ALL BURRS & SHARP EDGES RADII & CHAMFERS 0.4 mm UNLESS SPEC'D				DRAWN DEEPAK CHECKED		DATE 15.10.2009	PART DESCRIPTION S5- 335 SUPERCHARGER- 1.8 PR (SHORT DRIVE WITH PULLEY)		
	ANGULAR TOL		LINEAR TOL		DO NOT SCALE		APPROVED	DWG. No. 247A1107	PAGE 1 OF 1	REVISION A
ALL DIMENSIONS IN MILLIMETRES	X*	+2*	X	+0.5	SCALE 1:3	SIZE A3				
	XX*	+1*	XX	+0.1						
	XXX*	+0.5*	XXX	+0.05						
	XXXX*	+0.25*	XXXX	+0.01						



PULLEY MOUNT DETAILS

M6.0 x 1.0- 10 DEEP
4 PLACES, EQUISPACED
ON 30.0 PCD



- NOTE:
1. MAXIMUM FIXING BOLT TORQUE 25Nm FOR M8 SCREWS
 2. THE MOUNTING SURFACE FLATNESS MUST BE WITHIN 0.03mm
 3. THE SUPERCHARGER DRIVE SHAFT MUST BE ALIGNED TO THE ENGINE DRIVE SHAFT WITHIN 0.3°
 4. DO NOT OVER TENSION THE DRIVE BELT. THIS WILL RESULT IN HIGHER POWER CONSUMPTION AND DAMAGE TO THE BELT AND PULLEYS



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FINISH	REMOVE ALL BURRS & SHARP EDGES RADII & CHAMFERS 0.4 mm UNLESS SPEC'D		DO NOT SCALE		DRAWN DEEPAK	DATE 20.04.2009	PART DESCRIPTION S5- 335 SUPERCHARGER- 1.8 PR (SHORT DRIVE)
	ANGULAR TOL	LINEAR TOL	SCALE 1:3	SIZE A3	CHECKED	APPROVED	DWG. No. 247A1105
ALL DIMENSIONS IN MILLIMETRES	X* +2*	X +0.5					PAGE 1 OF 1
	XX* +1*	XX +0.1					REVISION A
	XXX* +0.5*	XXX +0.05					
	XXXX* +0.25*	XXXX +0.01					