

Technical Data Sheet

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General Description

The C38 is a range of centrifugal superchargers for combustion engine applications suitable for engines ranging from 3 to more than 6 litres producing up to 720hp.

Impeller speeds of up to 90,000rpm are achieved through the patented hi-speed planetary traction drive, which combines small size with exceptional performance and durability.

The excellent efficiency, as well as very low noise and vibration characteristics of these superchargers are state of the art among vehicle forced induction systems.



Applications

The C38 range is designed for four stroke gasoline engines with a supercharged output range of 300 to 720hp depending on application and trim.

The groundbreaking compact size enables a very flexible supercharger installation particularly on engine applications with tight space and where weight and size is essential.

The supercharger is driven by an 8-ribbed poly V-belt, ensuring a low cost durable and efficient transmission.

Oil system

The supercharger features an integrated dual-action oil pump, that works as a dry sump scavenging pump in addition to being the oil supply pump. The self-contained oil system allows free positioning of the supercharger on the vehicle, and has the benefit of fitting the supercharger without worrying about tampering with the oil system of the engine or any other accessory.

The Rotrex C-type supercharger has been developed and extensively tested with the Rotrex SX100 traction fluid. To maintain the ultimate level of performance and durability it is very important that the unit is exclusively run with SX100 traction fluid. Make sure the inlet oil temperature is within the range specified in the table on the next page. Any deviation from the standard Rotrex oil circuit requires approval from Rotrex.

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Characteristics

Characteristic	Symbol	C38-61	C38-71	C38-81	C38-91/92
Power range ¹	P_{range}	300-560 HP	350-620 HP	400-660 HP	400-720 HP
Max flow rate	M_{flow}	0.48 kg/s	0.55 kg/s	0.58 kg/s	0.63 kg/s
Drive unit-ratio	N	1:7.5			
Drive efficiency	η	98.4%			
Pulley diameters available	$\varnothing_{\text{pulley}}$	70, 75, 80, 85, 90, 95, 100, 105, 110 mm 8 rib steel - PK profile			
Unit weight	M	6.0 Kg (13.2 lbs)			
Rotational direction	$R_{\text{in direction}}$	Clockwise rotation, as seen from pulley side			
Peak input shaft speed	$R_{\text{in max}}$	12,000 rpm			
Peak impeller speed	$R_{\text{out max}}$	90,000 rpm			
Min inlet oil temperature	$T_{\text{oil, in min}}$	-40°C (-40°F)			
Max inlet oil temperature	$T_{\text{oil, in max}}$	+80°C (176°F)			
Mounting torque Pulley bolt	M10	70Nm (52 ft-lb)			
Mounting torque Bracket bolts	M8x85	15Nm (11 ft-lb)			
Mounting torque Oil banjo bolts	M10x1	21Nm (15.5 ft-lb)			

¹ Power output is dependent on engine type, cooling, cam-timing etc.

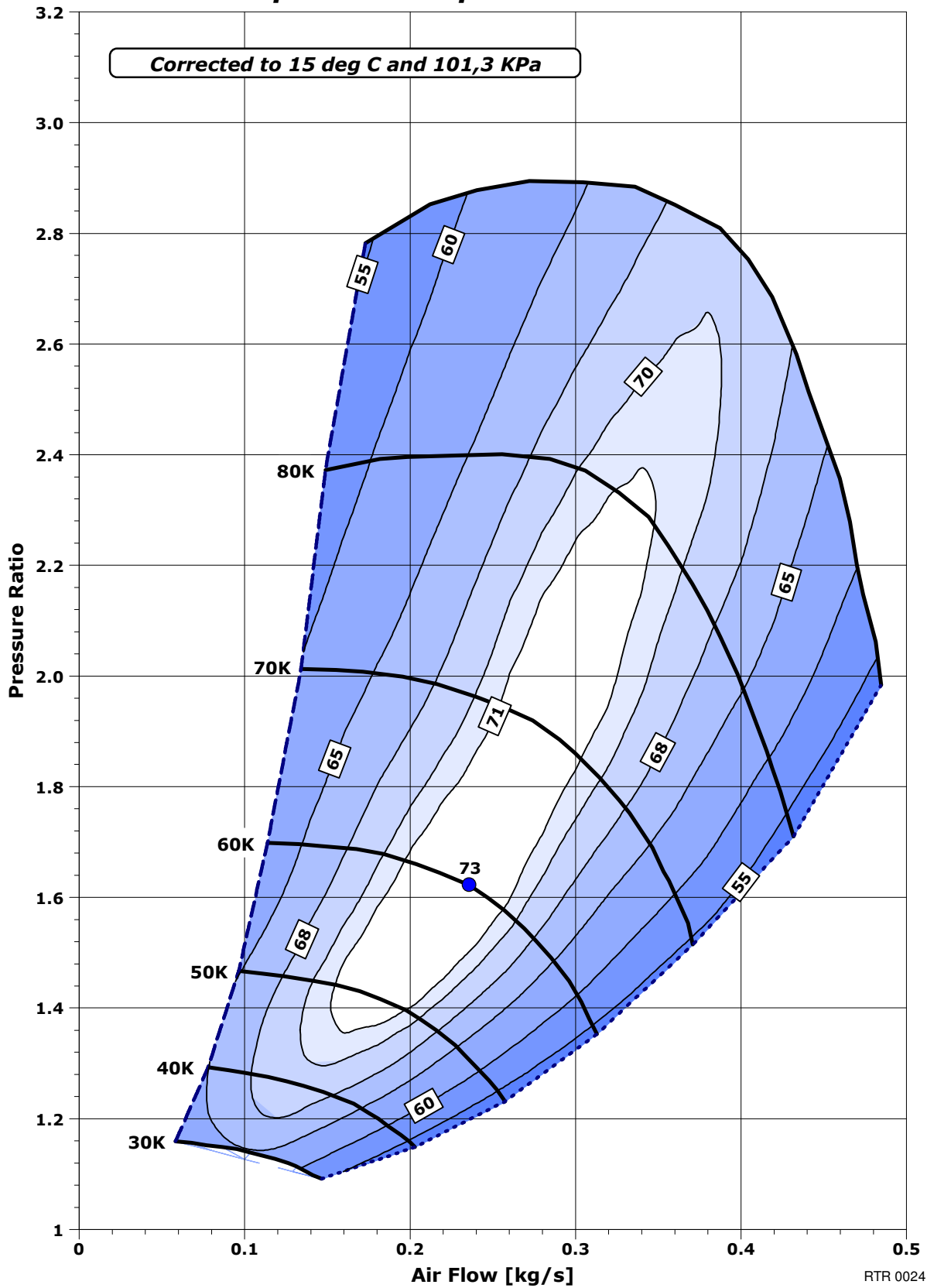
Conversion Toolbox

Temperature conversion	$^{\circ}\text{C} = \frac{5}{9} \times (^{\circ}\text{F} - 32)$ OR $^{\circ}\text{F} = \frac{9}{5} \times ^{\circ}\text{C} + 32$	
Kg/s to CFM conversion	$\text{CFM} = \frac{\text{kg}}{\text{s}} \times 1731.8$	$\frac{\text{kg}}{\text{s}} = \frac{\text{CFM}}{1731.8}$ @15°C and 0.1013MPa

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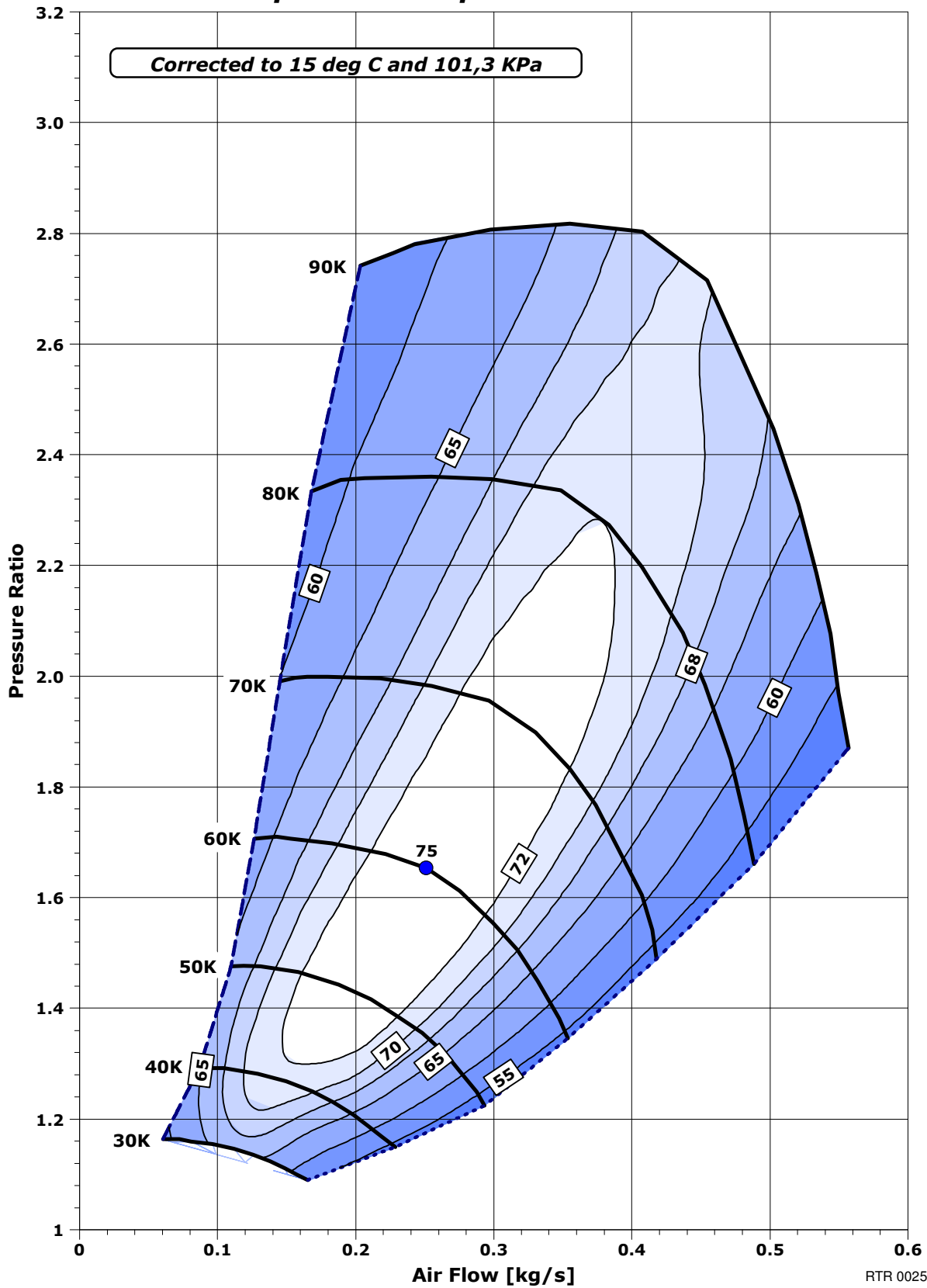
C38-61 Compressor map



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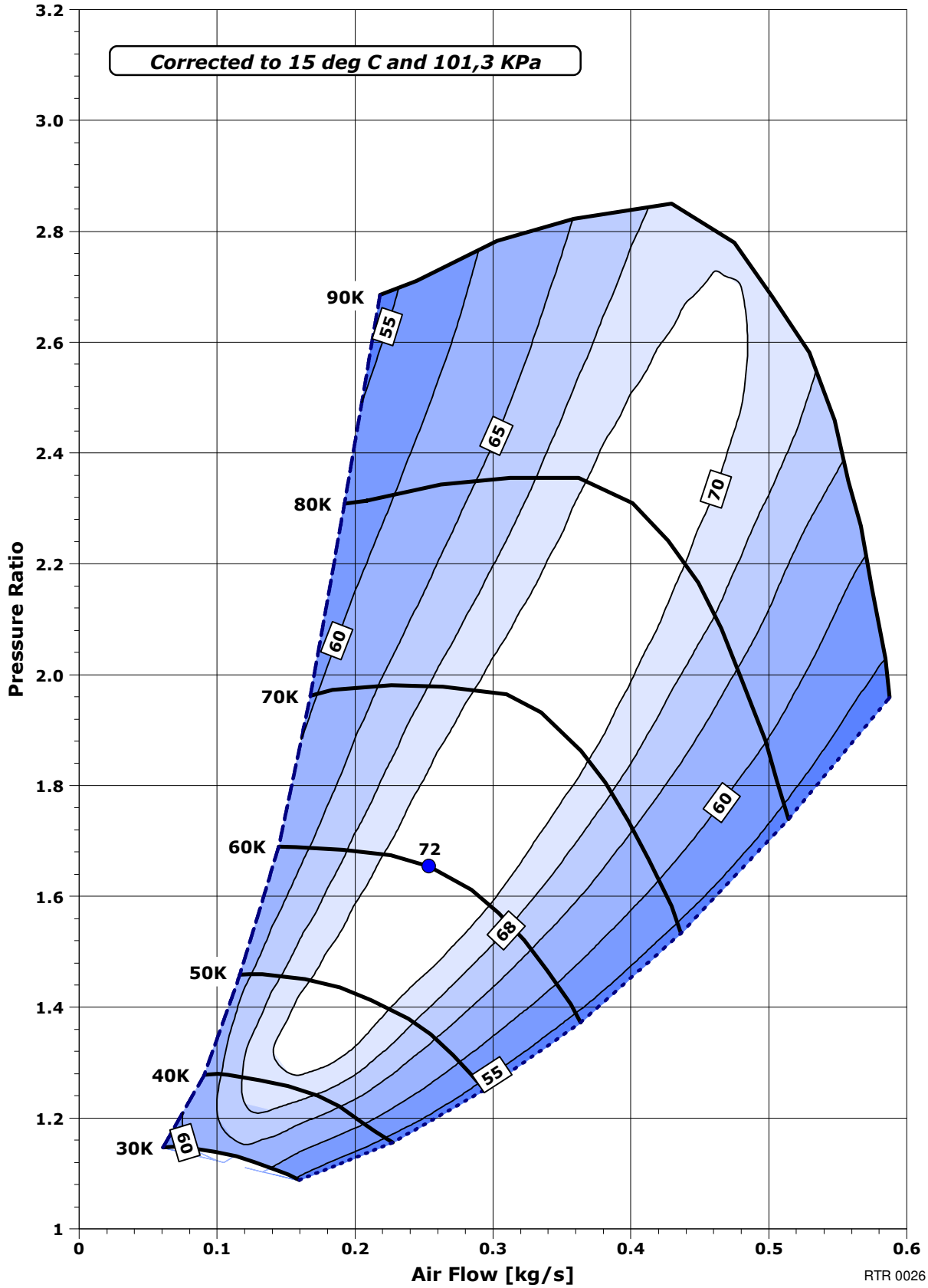
C38-71 Compressor map



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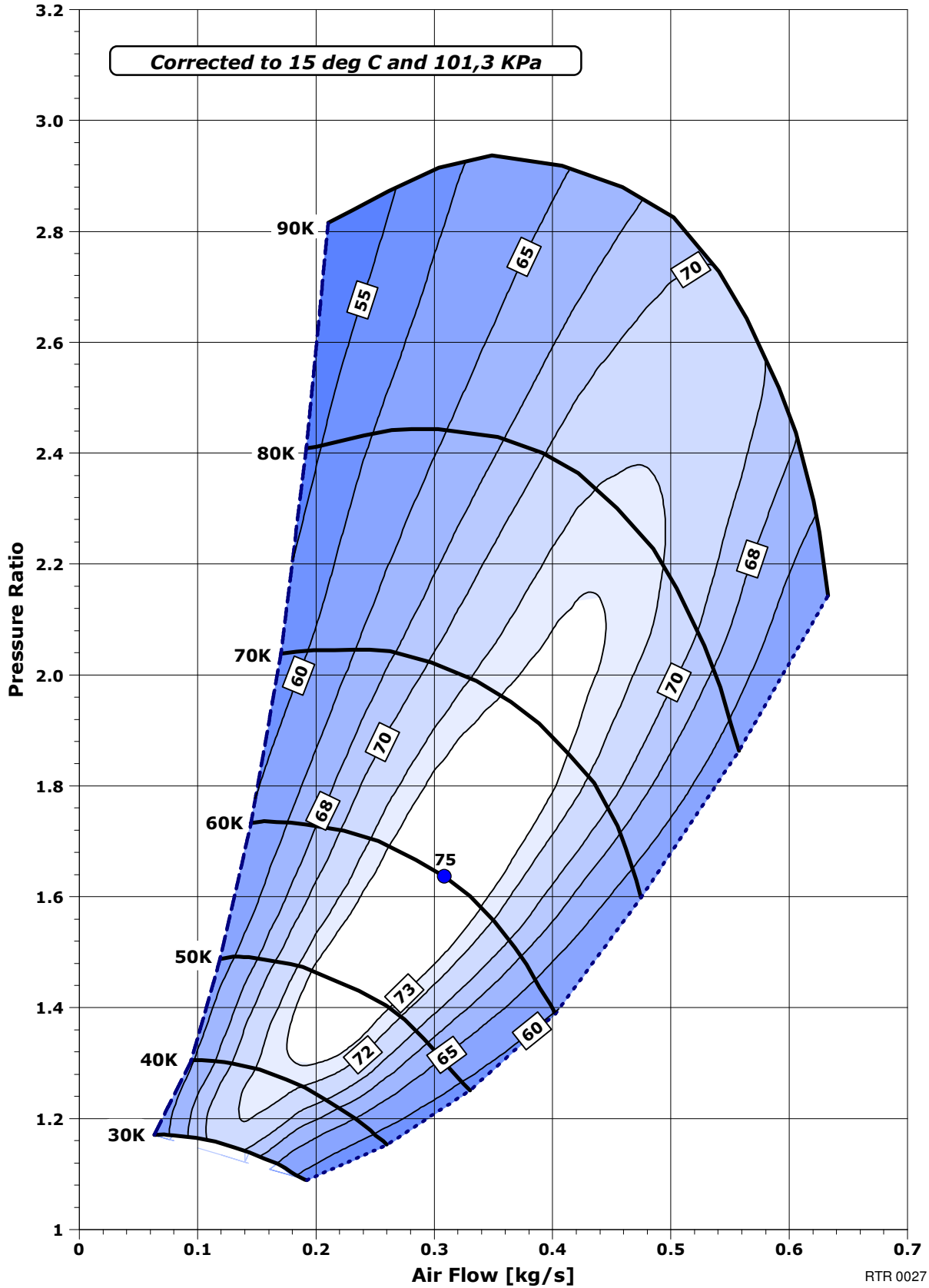
C38-81 Compressor map



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C38-91/92 Compressor map



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Dimensions

