

Technical Data Sheet

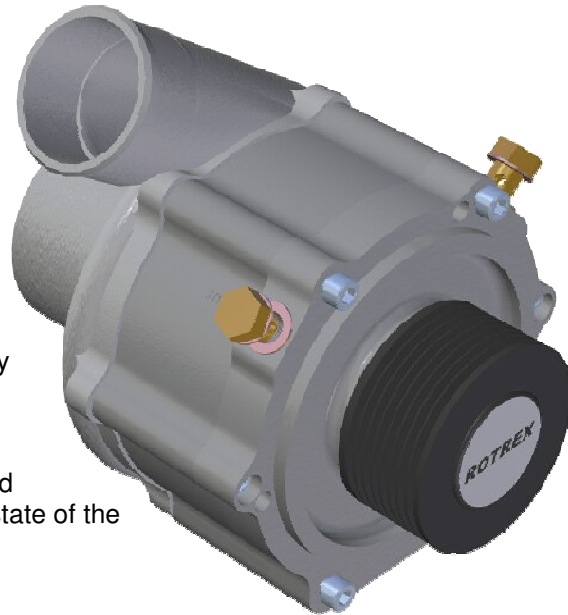
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General Description

The C30 is a range of centrifugal superchargers with a very versatile application range. The wide selection of trims for the C30 will cover combustion engines ranging from 1 to more than 4.5 litres producing up to 400hp.

Impeller speeds of up to 100,000rpm for the C30-94 trim and 120,000rpm for the C30-64, 74 and 84 trims 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 C30 range of superchargers is designed for four stroke gasoline engines. However two stroke engines or even diesel engines can benefit from these superchargers with remarkable results. Depending on the application and trim the C30 range will support engine outputs from 100 to 400Hp. Where one supercharger is not enough, it is possible to use two units to support large amounts of power in a twin-charger configuration.

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	C30-64	C30-74	C30-84	C30-94
Power range ¹	P_{range}	100-280 Hp	150-300 Hp	200-320 Hp	250-400 Hp
Max mass flow rate	M_{flow}	0.26 kg/s	0.28 kg/s	0.30 kg/s	0.37 kg/s
Drive unit-ratio	N	1:9.49			
Drive efficiency	η	96%			
Pulley diameters available	\varnothing_{pulley}	70, 75, 80, 85, 90, 95, 100, 105, 110 mm 8 rib steel - PK profile			
Unit weight	M	5.1 Kg (11.2 lbs)			
Rotational direction	$R_{in_{direction}}$	Clockwise rotation, as seen from pulley side			
Peak input shaft speed	$R_{in_{max}}$	12,600 rpm			10,500 rpm
Peak impeller speed	$R_{out_{max}}$	120,000 rpm			100,000 rpm
Min inlet oil temperature	$T_{oil,in_{min}}$	-40°C (-40°F)			
Max inlet oil temperature	$T_{oil,in_{max}}$	+80°C (176°F)			
Mounting torque Pulley bolt	M10	50Nm (37 ft-lb)			
Mounting torque Bracket bolts	M6x78	9Nm (6.6 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.

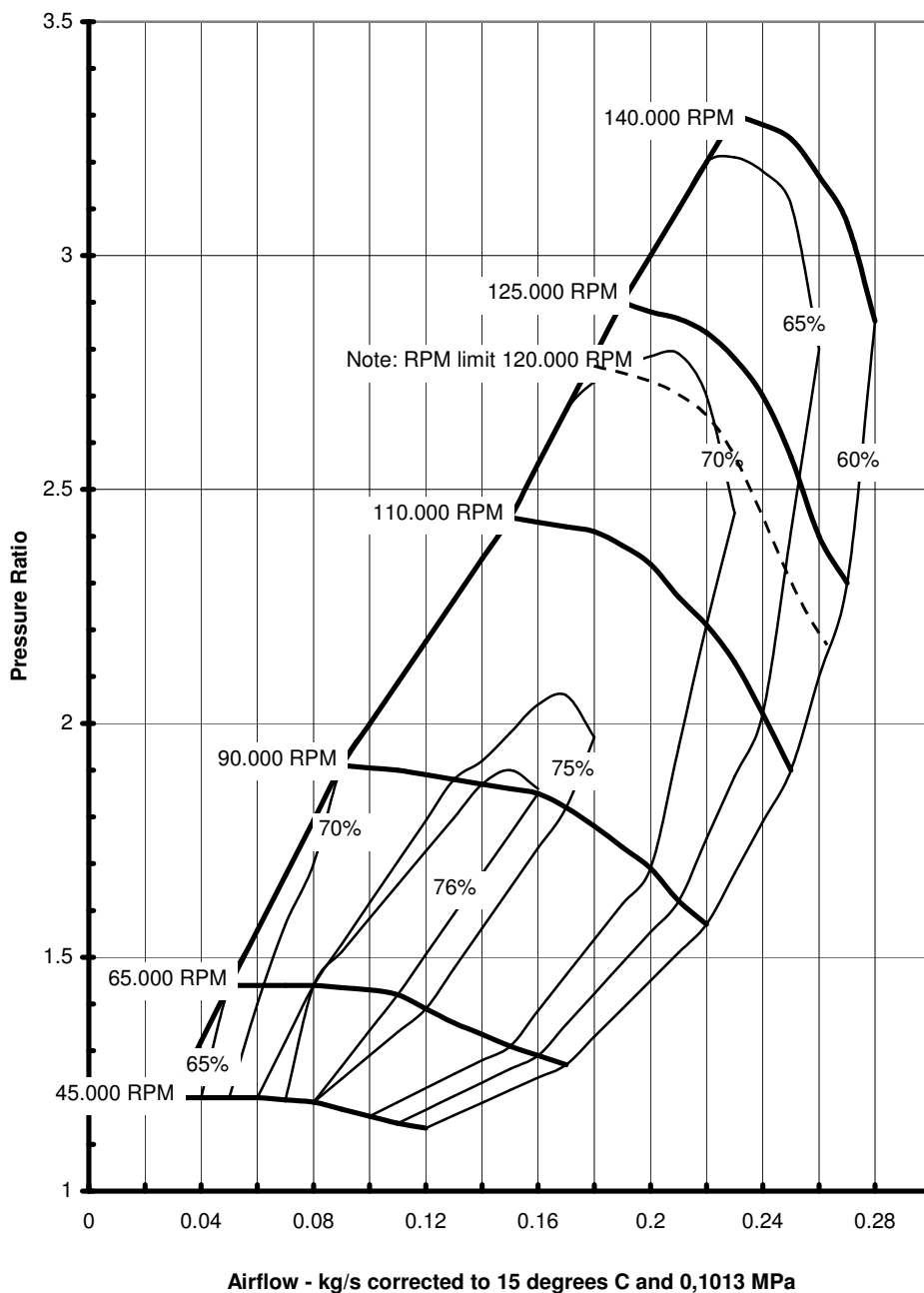
Conversion Toolbox

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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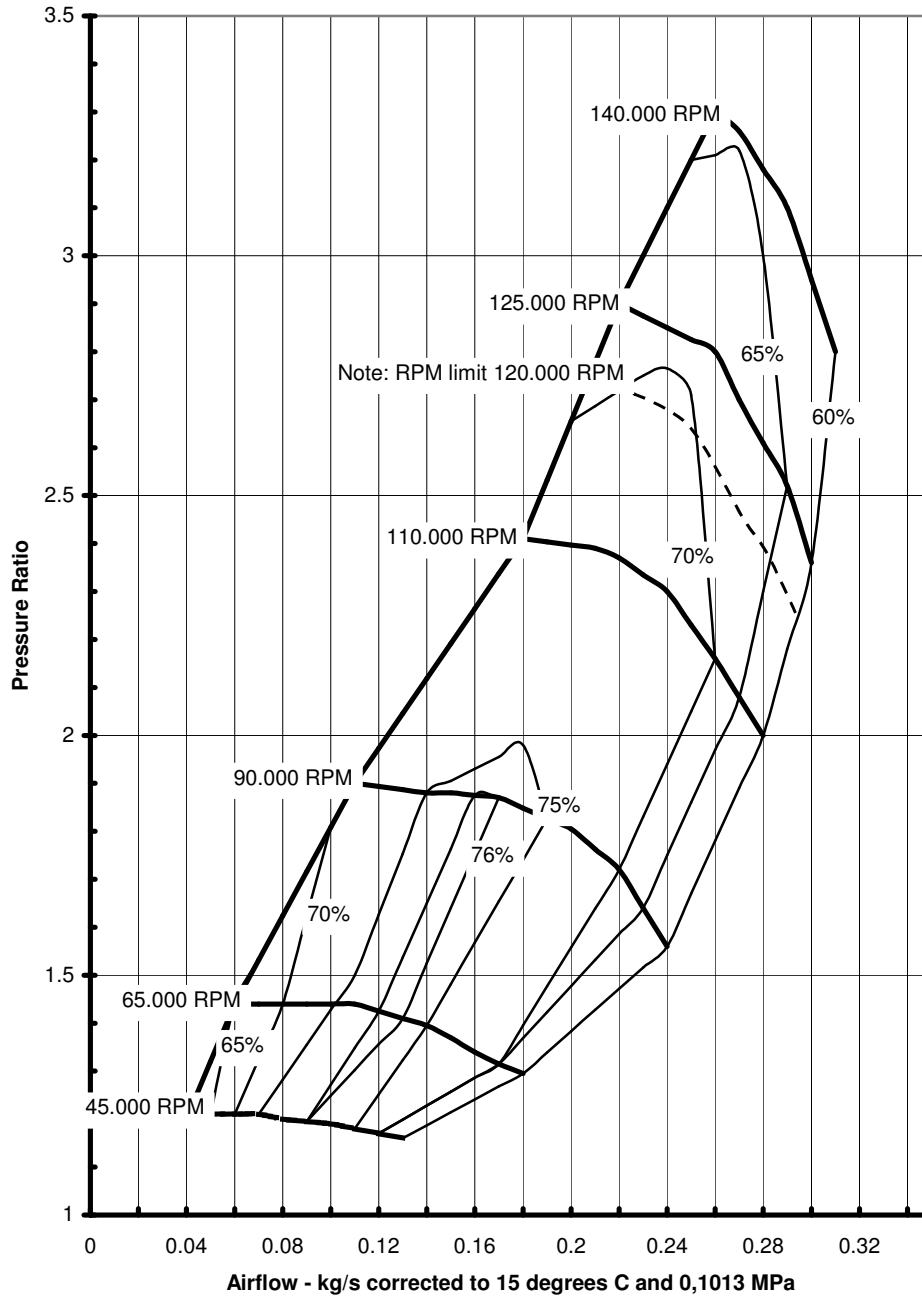
Flow chart C30-64



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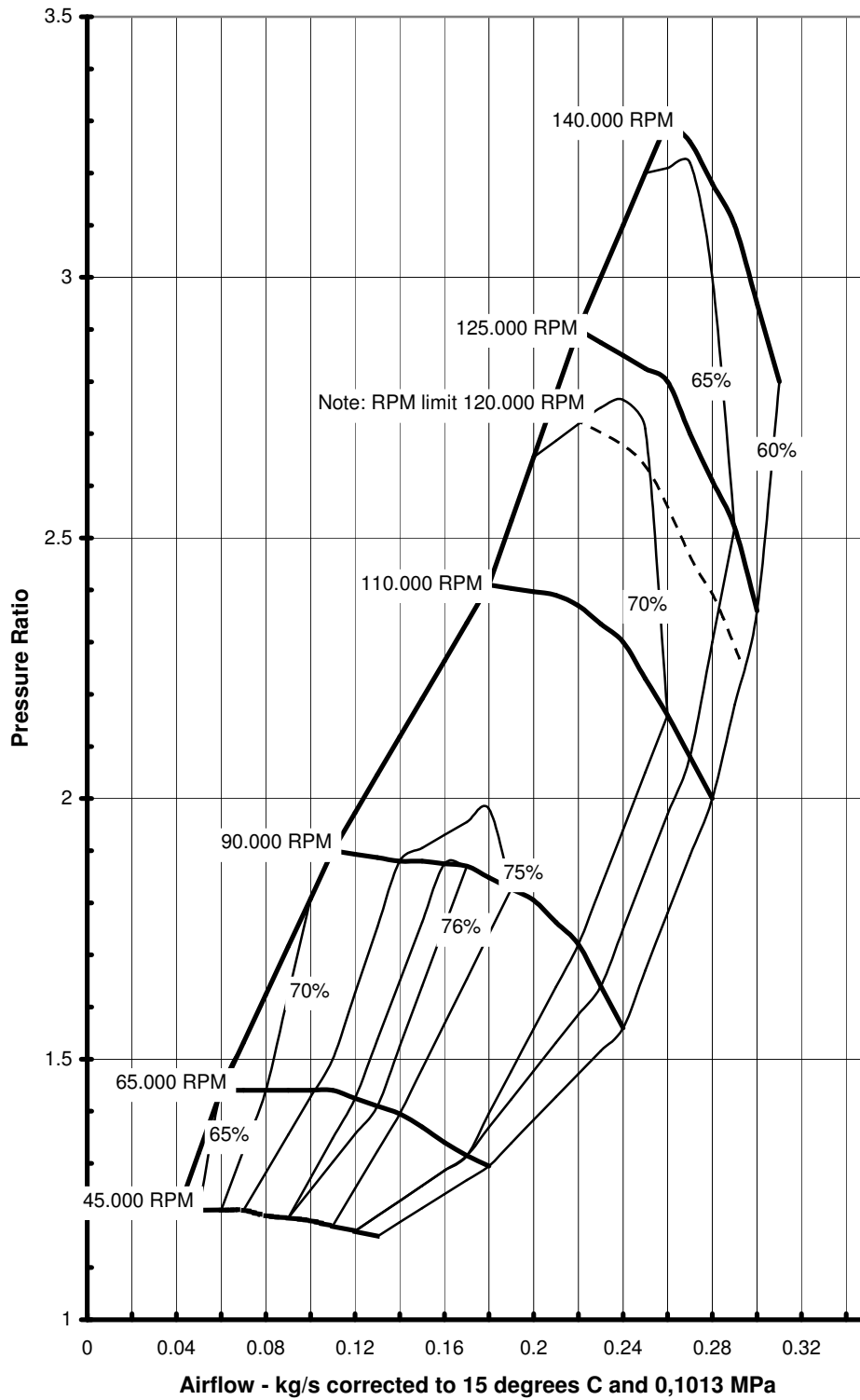
Flow chart C30-74



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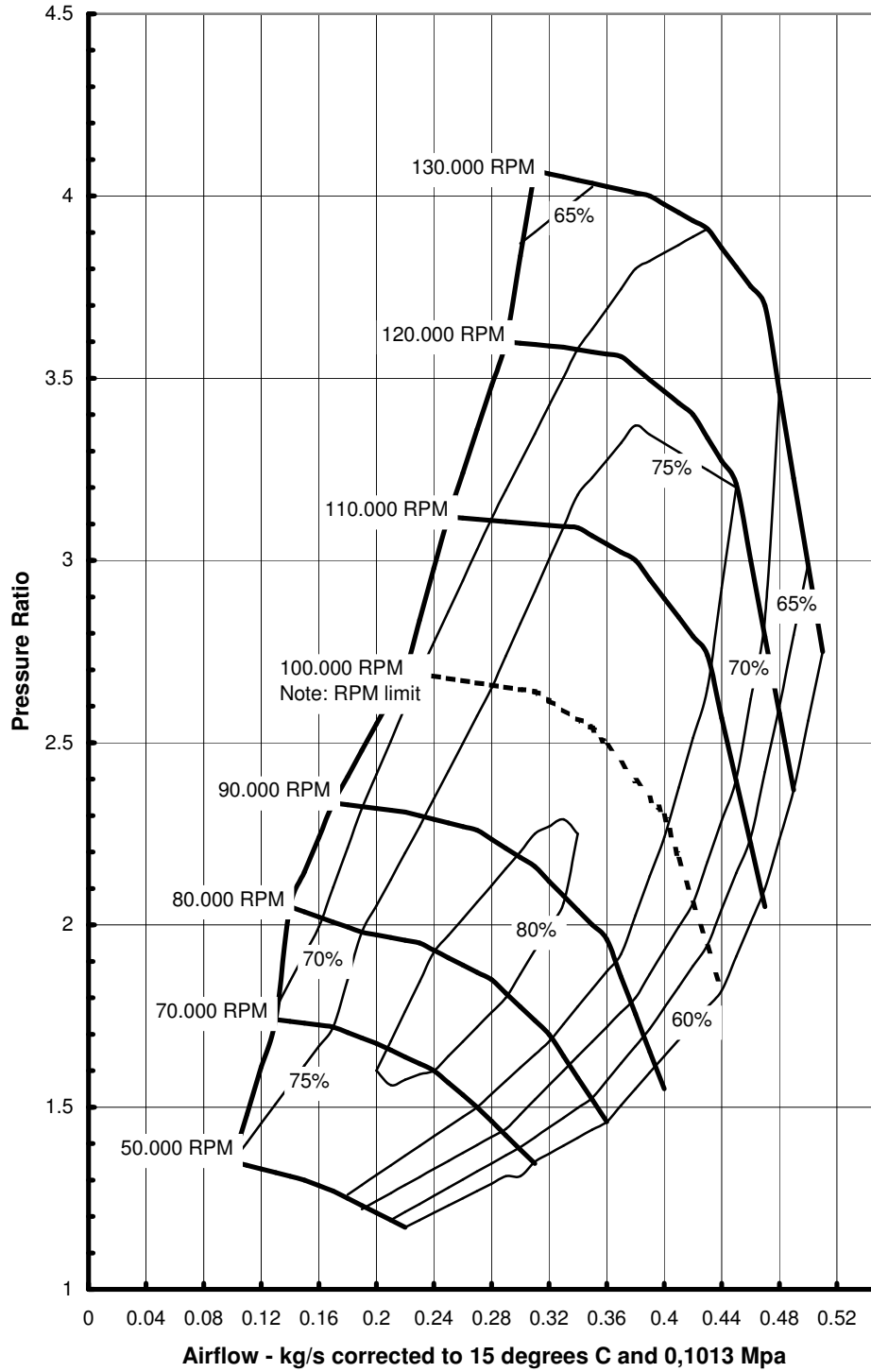
Flow chart C30-84



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Flow chart C30-94



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Dimensions

