

Technical Data Sheet

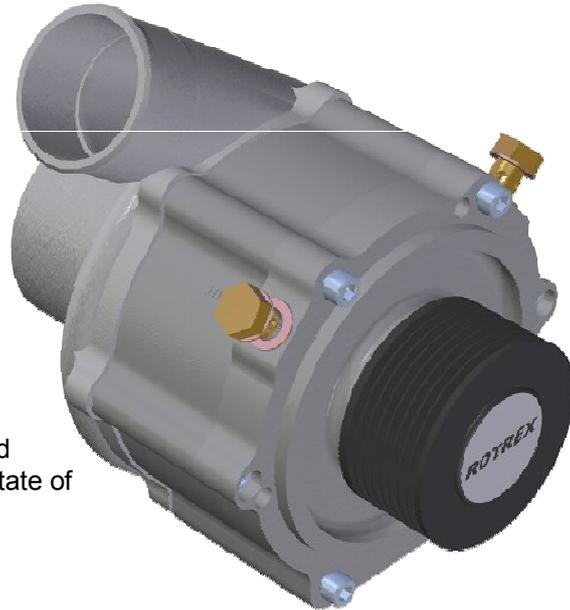
Product:	C30 range
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General Description

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 120,000rpm 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 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 or above. Where one supercharger is not enough, it is possible to use two units to support huge 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, which functions as oil supply pump as well as a dry sump-scavenging pump. An external oil reservoir, filter and optional cooler are supplied with the supercharger. The self-contained oil system allows free positioning of the supercharger on the vehicle.

The requirement for oil cooling will depend on the individual application, in some cases allowing installations without oil cooler.

The Rotrex SX100 supercharger traction fluid has been developed for optimum lubrication, cooling and traction capabilities under extreme conditions. Always use SX100 traction fluid with your C-type Rotrex supercharger.

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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 mm 7 rib aluminium or 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			
Max input shaft speed	$R_{in_{max}}$	12,600 rpm			10,500 rpm
Max impeller speed	$R_{out_{max}}$	120,000 rpm			100,000 rpm
Min inlet oil temperature	$To_{il,in_{min}}$	-40°C (-40°F)			
Max inlet oil temperature	$To_{il,in_{max}}$	+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

$$^{\circ}\text{C} = \frac{5}{9} \times (^{\circ}\text{F} - 32) \quad \text{OR} \quad ^{\circ}\text{F} = \frac{9}{5} \times ^{\circ}\text{C} + 32$$

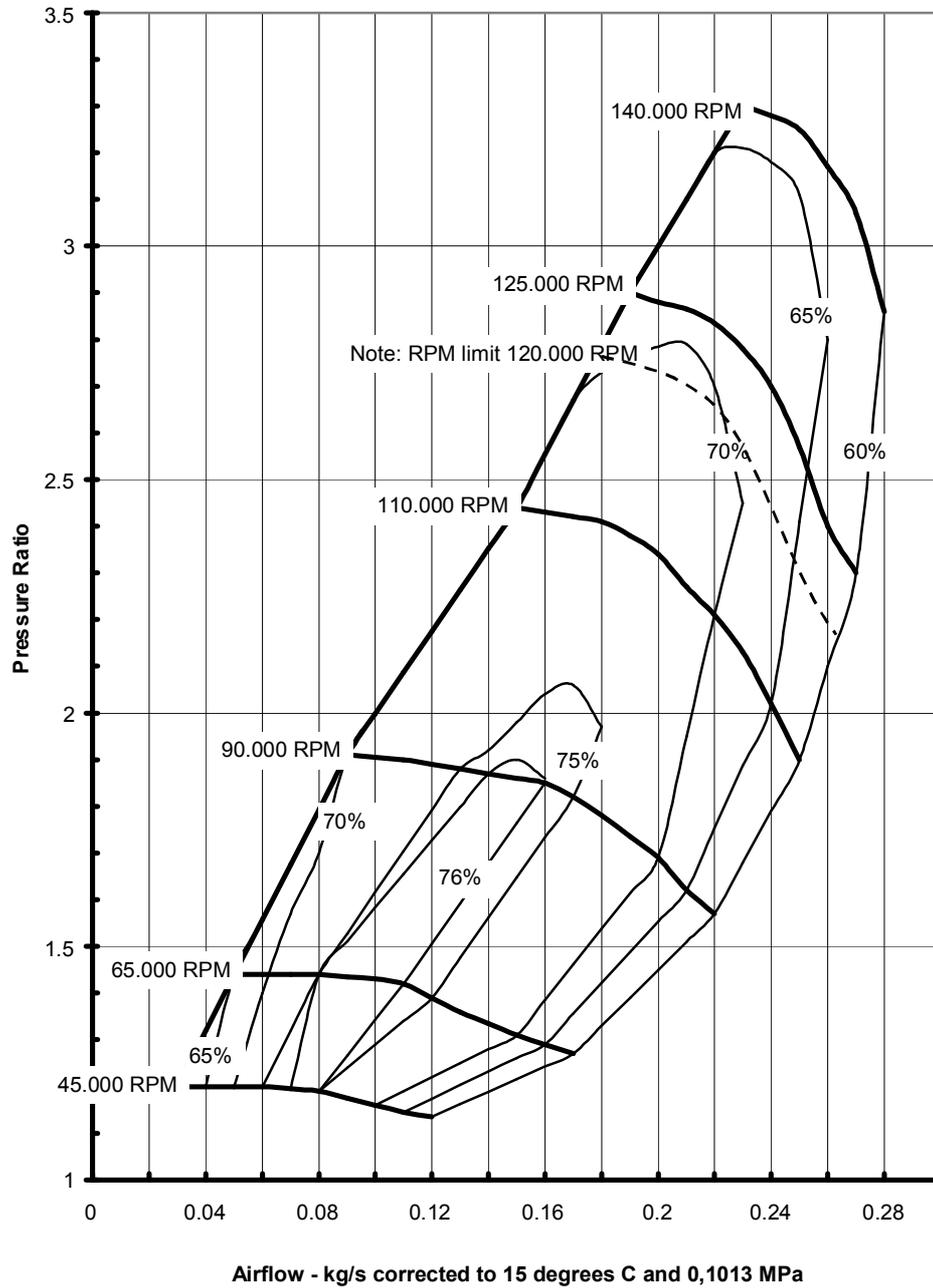
Kg/s to CFM conversion

$$\text{CFM} = \frac{\text{kg}}{\text{s}} \times 1731.8 \quad @ 15^{\circ}\text{C and } 0.1013\text{MPa}$$

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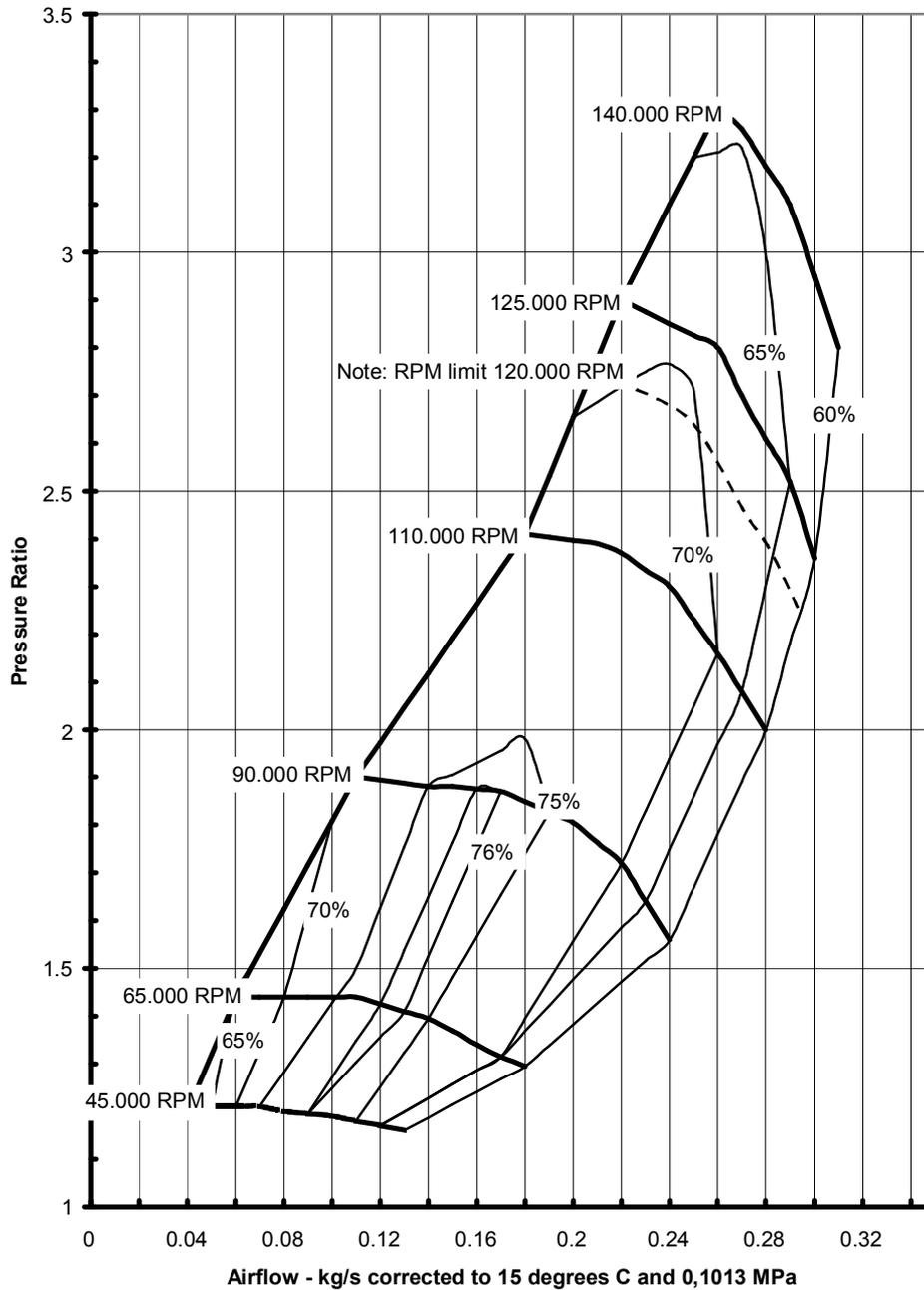
Flow chart C30-64



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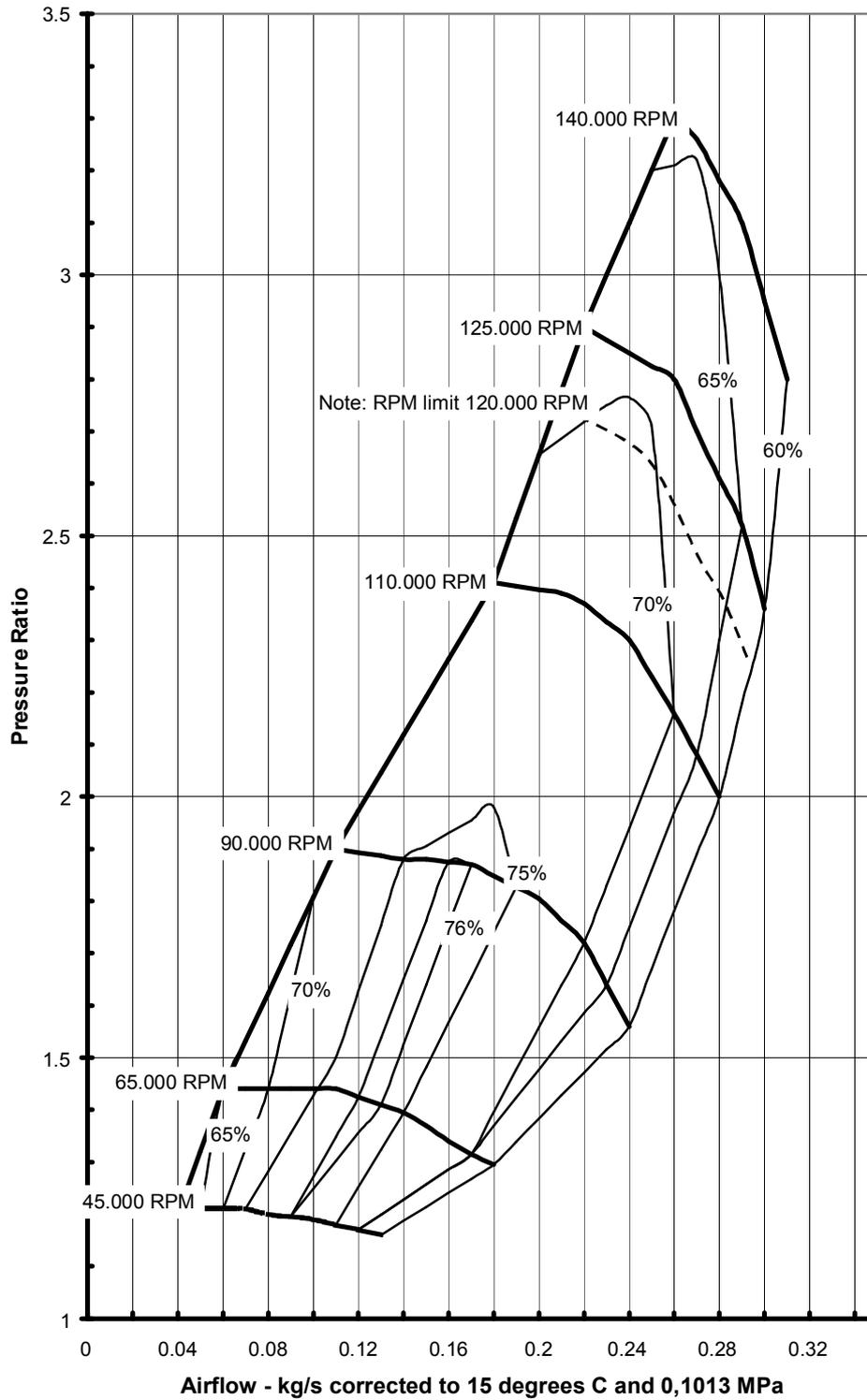
Flow chart C30-74



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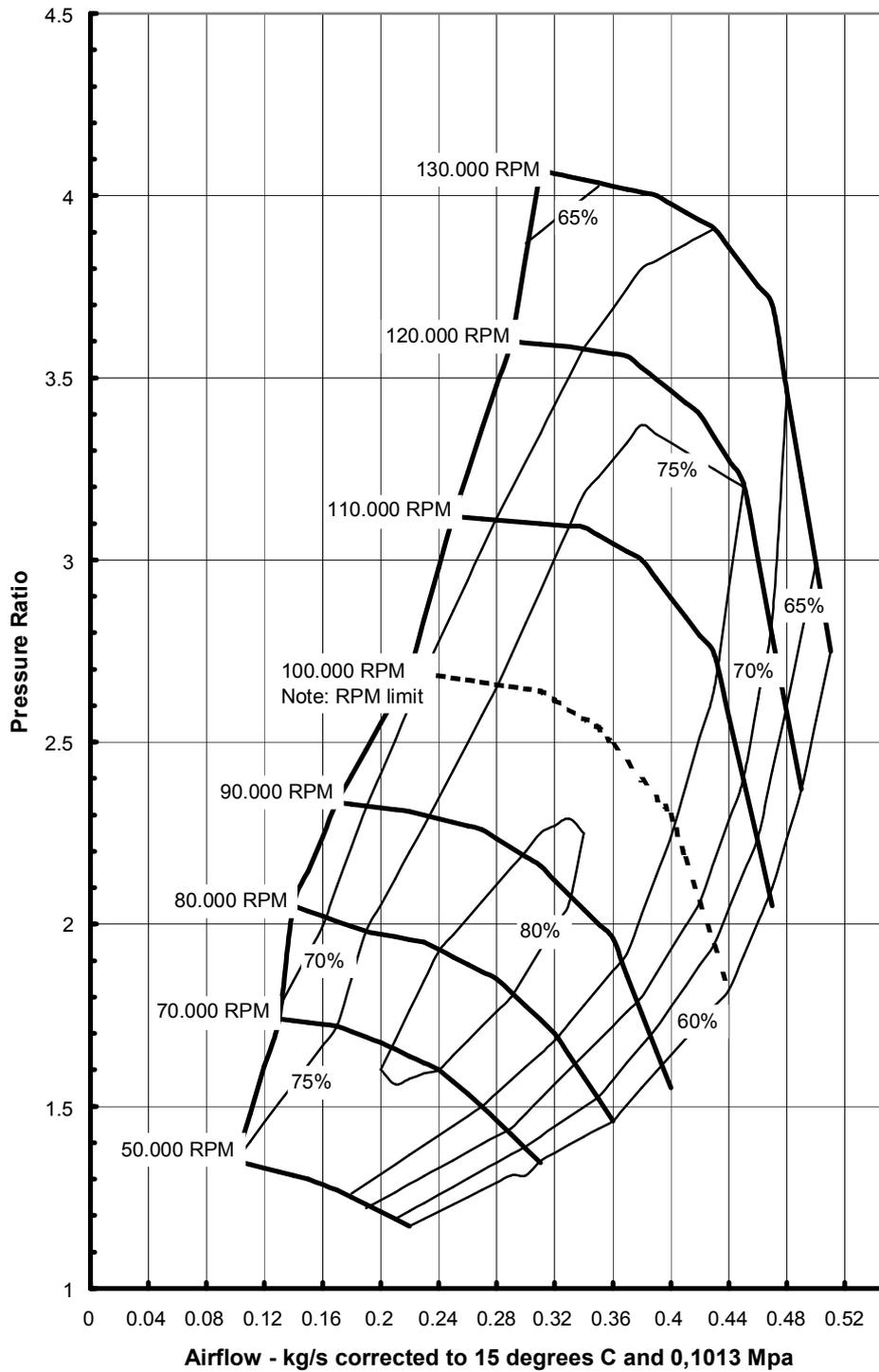
Flow chart C30-84



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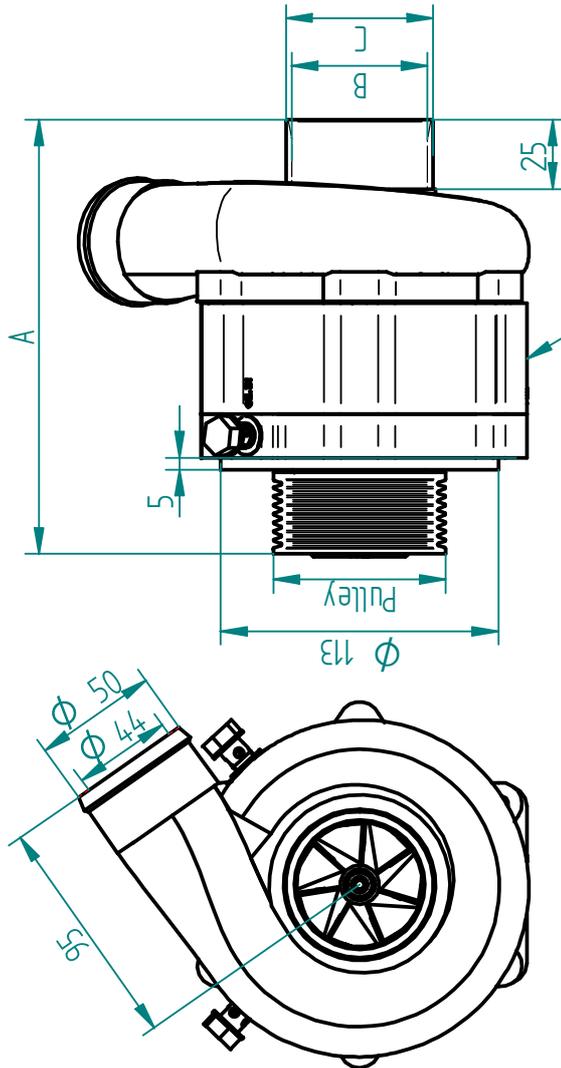
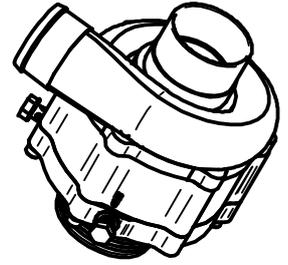
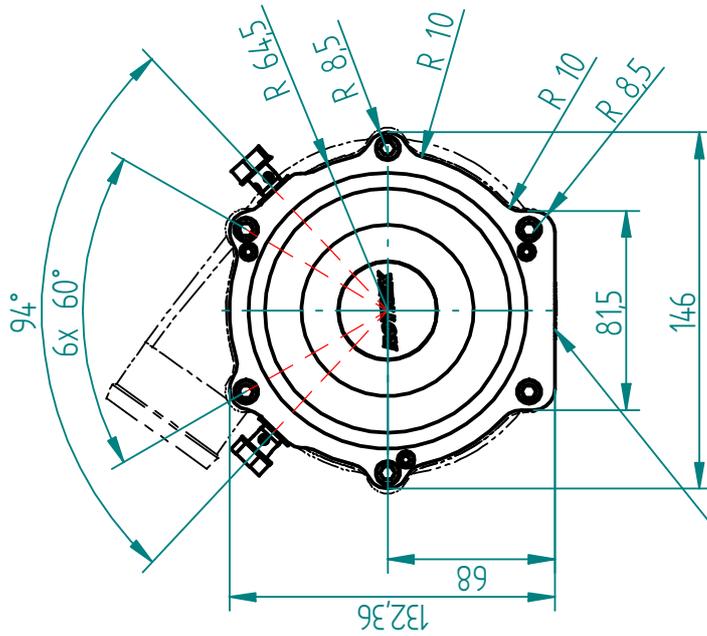
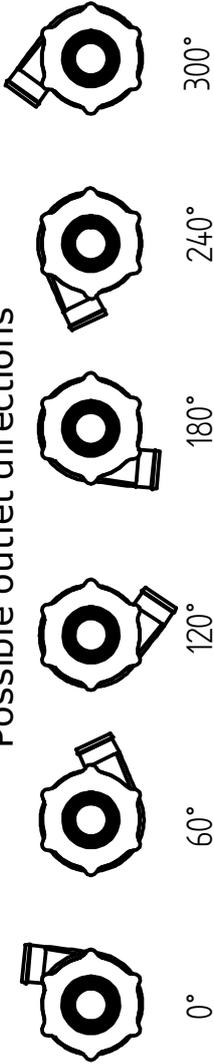
Flow chart C30-94



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Possible outlet directions



All dimensions in millimeters

The supercharger must be positioned with the flat part facing down and within $\pm 15^\circ$ from horizontal.

	A	B	C
C30-64	180	49	60
C30-74	180	51	60
C30-84	185	51	76
C30-94	185	61	76

Pulley ϕ	70	75	80	85	90	95	100