

# Technical Data Sheet

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## General Description

The C38 is a range of centrifugal superchargers for combustion engine applications ranging from 3 to more than 6 litres producing up to 630Hp.

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 630 Hp 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, 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	C38-61	C38-71	C38-81
Power range <sup>1</sup>	P <sub>range</sub>	300-550 Hp	350-590 Hp	400-630 Hp
Max flow rate	M <sub>flow</sub>	0.50 kg/s	0.52 kg/s	0.55 kg/s
Drive unit-ratio	N	1:7.5		
Drive efficiency	η	98.4%		
Pulley diameters available	∅ <sub>pulley</sub>	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 <sub>in direction</sub>	Clockwise rotation, as seen from pulley side		
Peak input shaft speed	R <sub>in max</sub>	12,000 rpm		
Peak impeller speed	R <sub>out max</sub>	90,000 rpm		
Min inlet oil temperature	Toil, <sub>in min</sub>	-40°C (-40°F)		
Max inlet oil temperature	Toil, <sub>in max</sub>	+80°C (176°F)		
Mounting torque Pulley bolt	M10	50Nm (37 ft-lb)		
Mounting torque Bracket bolts	M8x85	15Nm (11 ft-lb)		
Mounting torque Oil banjo bolts	M10x1	21Nm (15.5 ft-lb)		

<sup>1</sup> Power output is dependent on engine type, cooling, cam-timing etc.

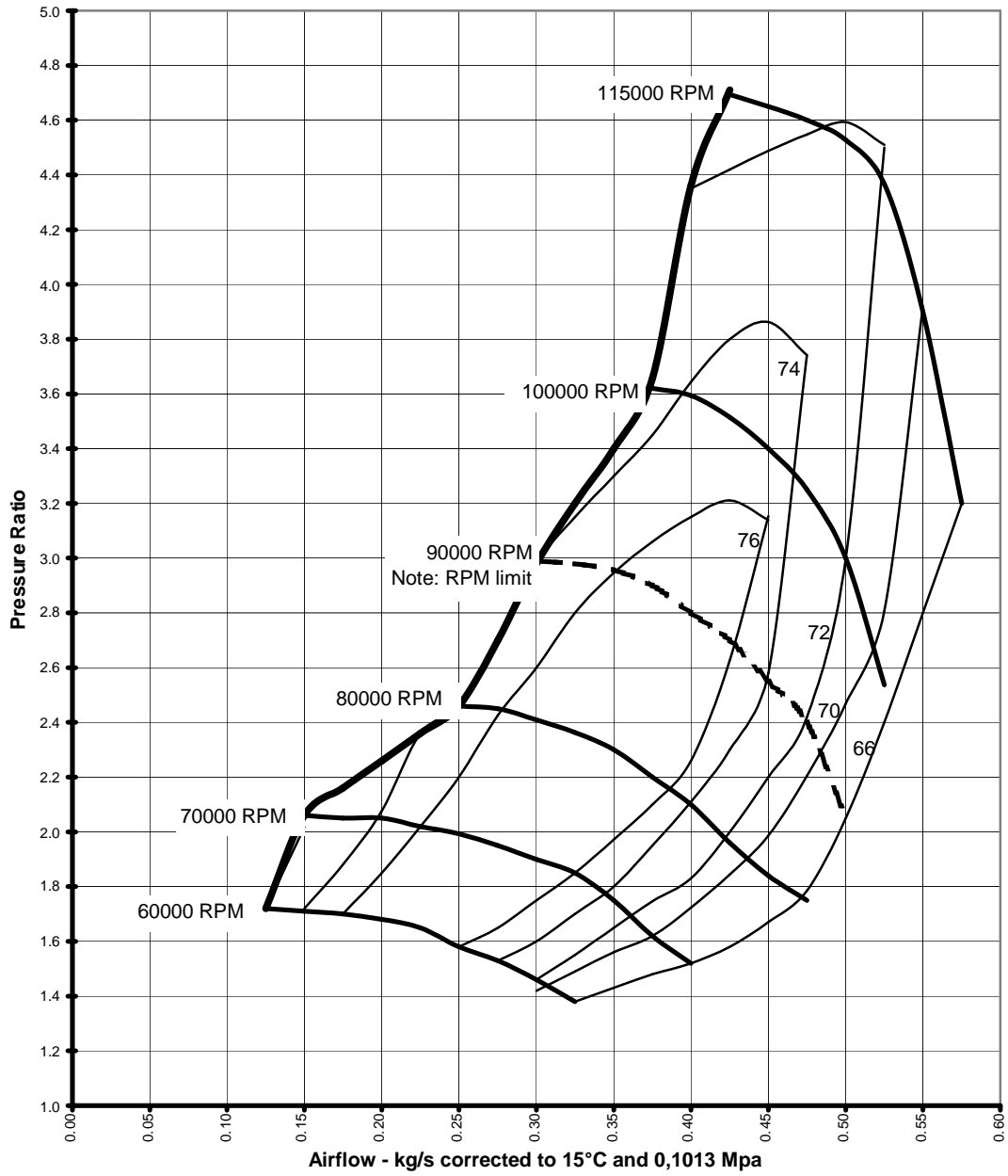
### Conversion Toolbox

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

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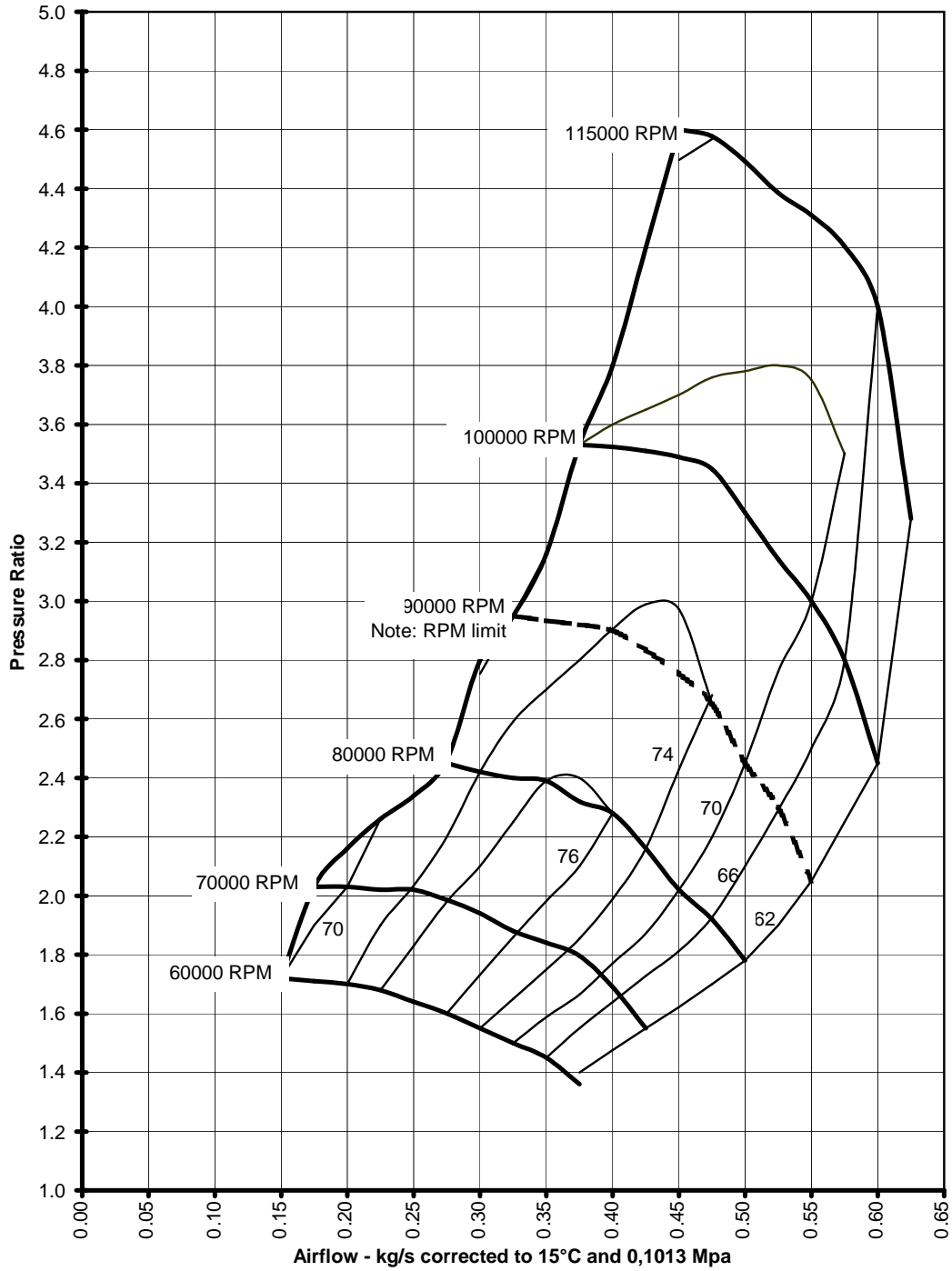
## Flow chart C38-61



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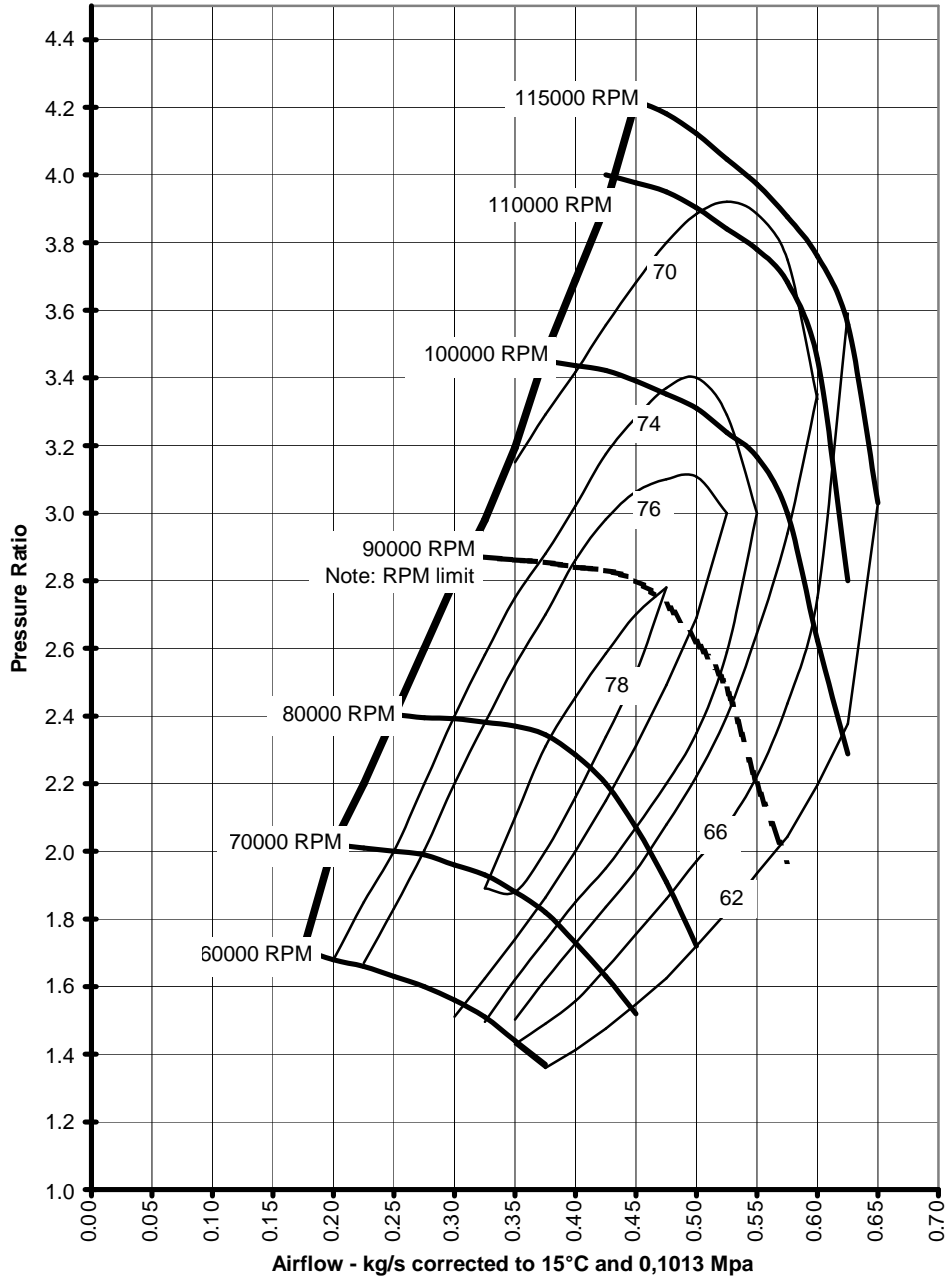
## Flow chart C38-71



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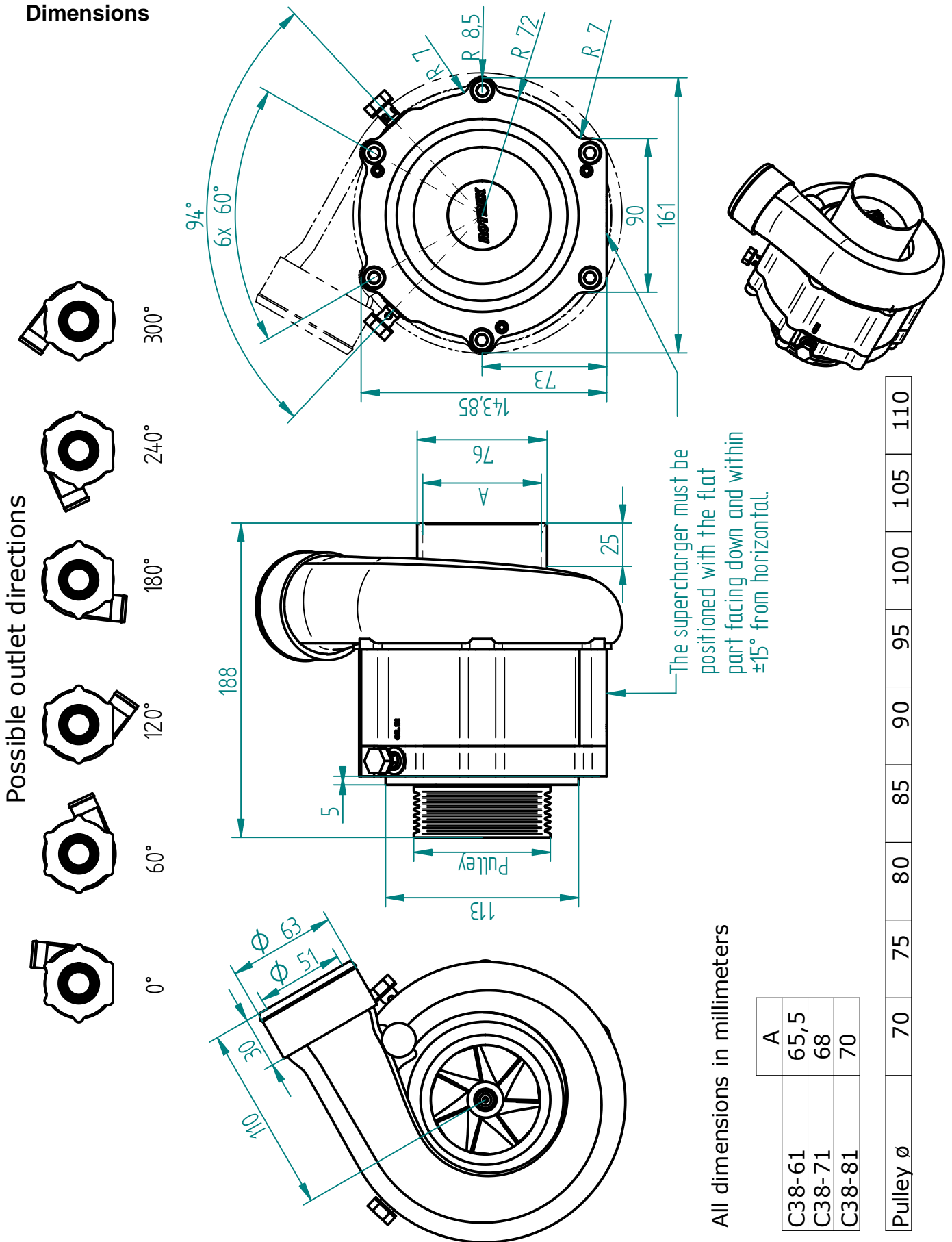
## Flow chart C38-81



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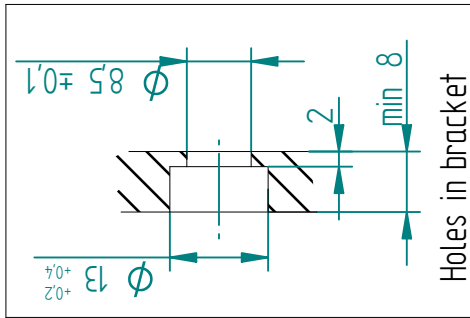
## Dimensions



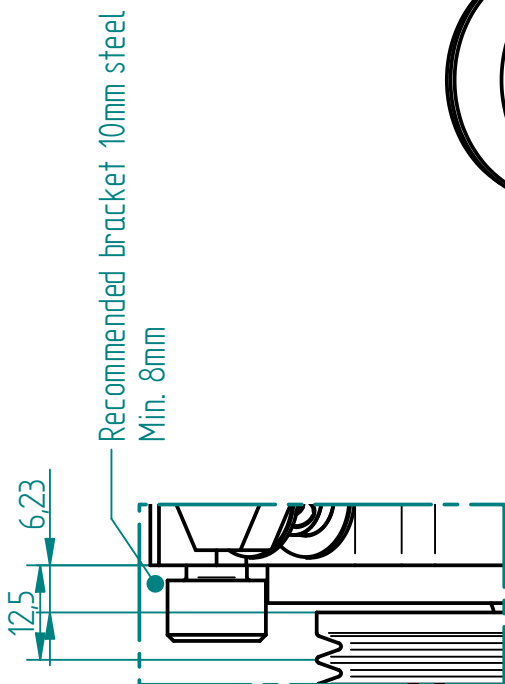
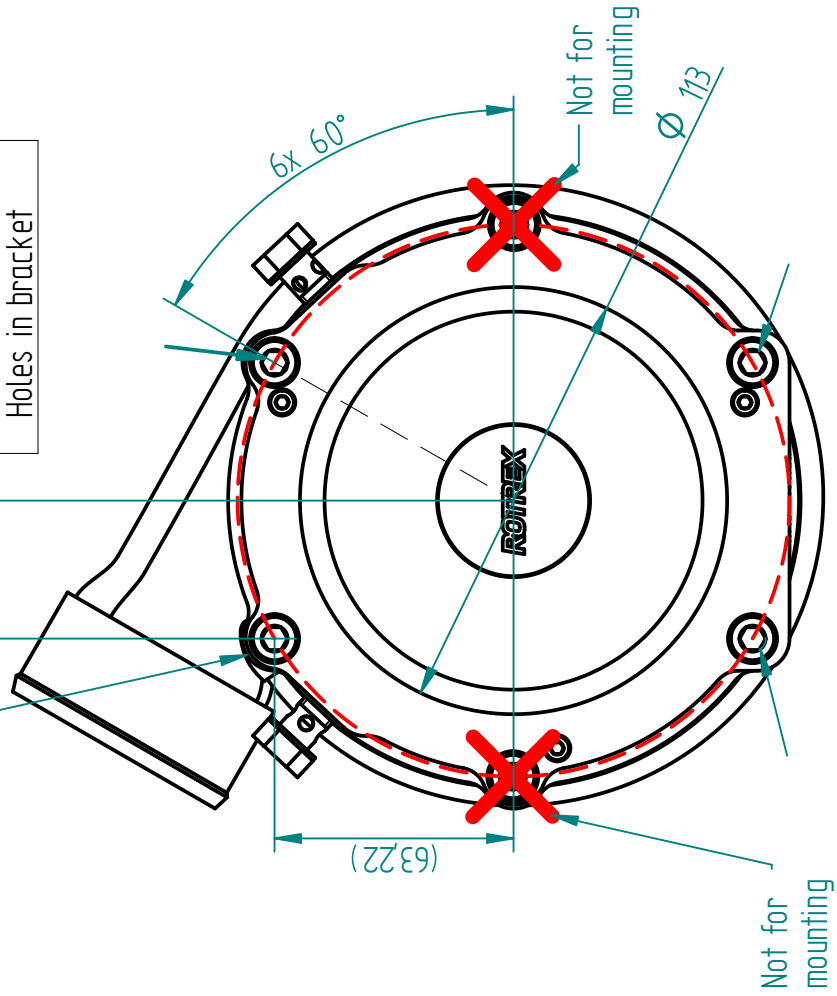
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## Bracket design guide



4x M8 cylinder head  
 Head  $\phi 13 +0 -0.27$   
 Head hi  $8 +0 -0.18$   
 PCD  $146 \pm 0.1$



DETAIL A

