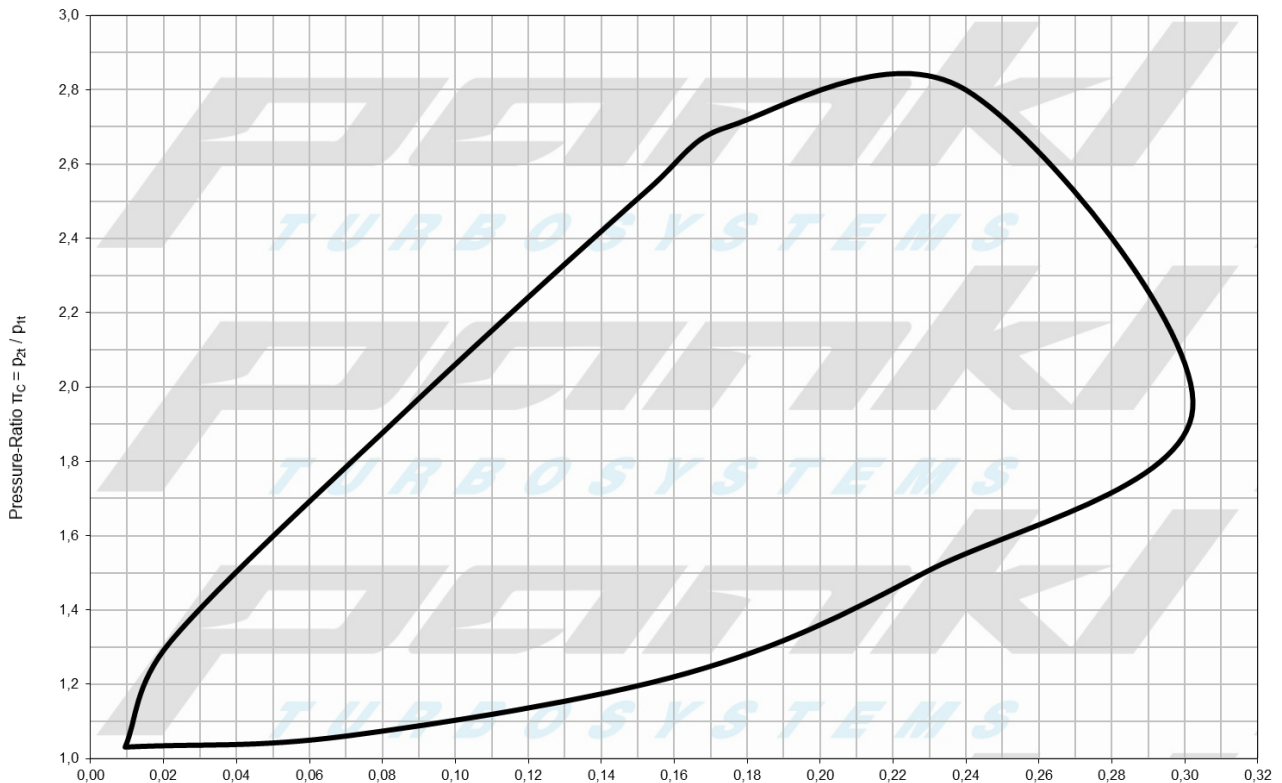


FCAS3 – High Pressure

Type	FCAS3.86-55		
Compressor type	Radial, single stage	Nominal voltage	800 V
Compressor wheel diameter	86 mm	Low voltage power supply	9 - 36 V
Max compressor pressure ratio	2.8	Inverter power stage	SiC MOSFET
Max compressor mass flow	220 g/s	Control	Sensorless
Peak compressor efficiency	78%	Communication	CAN 2.0
Expander type	Radial, single stage	Coolant inlet temperature	60° C
Expander wheel diameter	55 mm	Coolant flow rate	10 l/min
Acceleration (idle to rated power)	< 1.0 sec	Cooling	Water/Glycol (50/50)
Bearing type (oil free)	Aerodynamic	Air inlet conditions	-20° : +40° C
Electric motor	PMSM	Main dimensions (L x W x H)	280 x 230 x 230 mm
Maximum continuous power	35 kW	Weight	< 17.0 kg

Pankl reserves the right to change specification without notice. The data may change according to the configuration



$$\text{Corrected Mass Flow - Rate } \dot{m}_{c,corr} = \dot{m}_c \cdot \sqrt{T_{1t}/T_{ref}} \cdot P_{1ref}/P_{1t} \text{ in kg/s}$$

FCAS3.86-55



Key features

- Compact and flexible design
- High efficiency 35 kW PMSM
- Wide operating range
- Specification can be adapted to fit customer requirements
- Suitable for various applications
- Liquid cooling
- Aerodynamic oil-free bearing system
- High speed, high power density electric motor
- CAN 2.0 interface
- IP67 enclosure

Pankl Turbosystems GmbH (PTSYS) located in Mannheim, Germany is a subsidiary of Pankl Racing Systems AG, Austria. PTSYS is a high-tech custom solution provider in the field of innovative electrified turbomachinery and air management solutions for automotive, aerospace and industrial applications. PTSYS' leading-edge electrified solutions are fitted with high-efficiency permanent magnet synchronous motors and integrated power electronics. Pankl Turbosystems GmbH's Fuel Cell Air Supply (FCAS) systems for next generation high-performance fuel cells from 30kW to over 300kW are recognized for their weight/size-to-performance ratio and are optimized for highly dynamic transient response and start-stop operation.