

MAN AG / AR

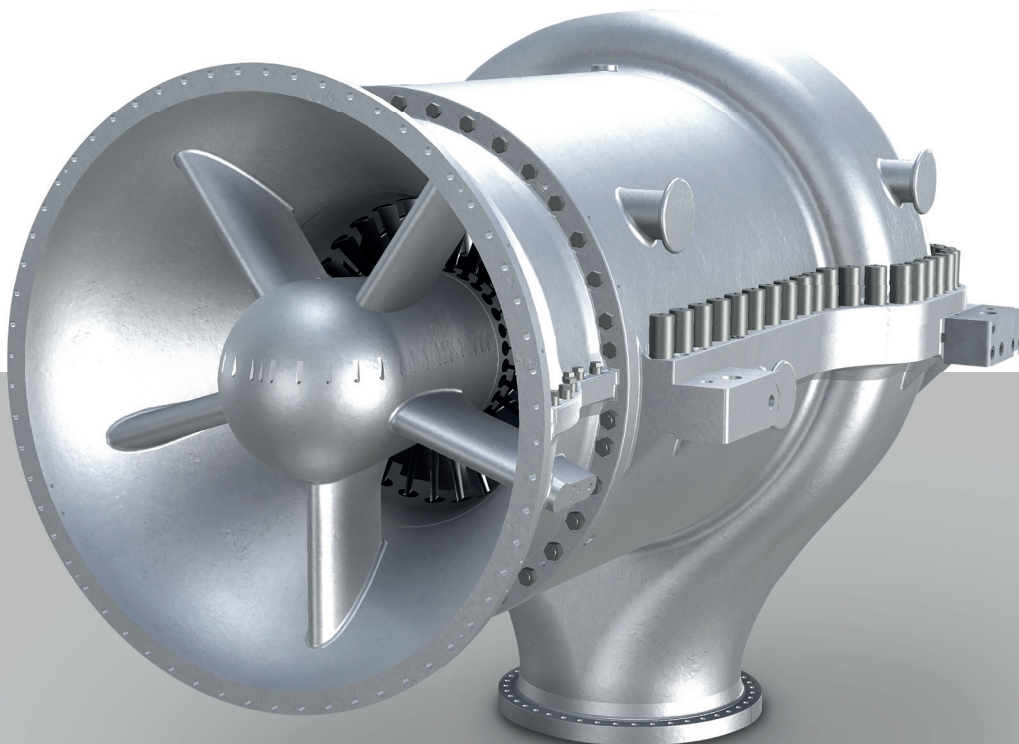
Axial-flow compressor

Axial-flow compressors are used wherever large volumes of gas need to be compressed or high efficiency in one compression stage is required. These compressors are the prime option in many applications such as blast furnace, nitric acid, FCC (fluid catalytic cracking) and PDH (propane

dehydrogenation) as well as for very large air separation trains and large carbon capture flows. With the latest blading development MAX1 the axial-flow compressors are featuring a superior surge robustness in the axial compressors world with very compact design at very high level of efficiency.

Benefits at a glance

- Compact design
- High power density
- High efficiency
- Superior surge robustness
- Able to handle very high volume flows



MAN AG/AR

High performance axial-flow compressors

Technical data

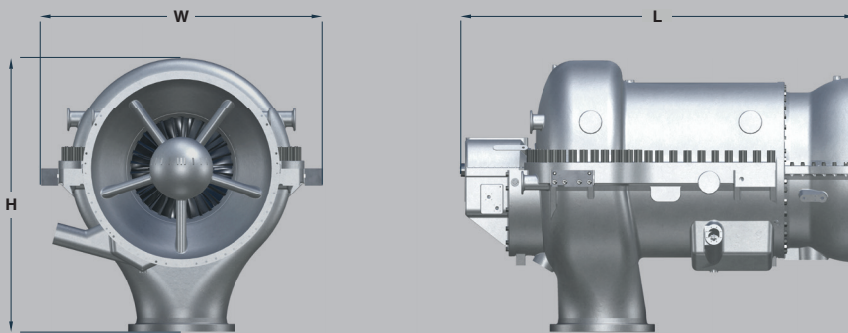
Type		045	050	070	080	090	100
L	mm	2,400	2,700	3,600	4,000	4,300	4,900
H	mm	1,900	2,100	2,900	3,100	3,500	3,800
W	mm	1,800	2,000	2,800	3,200	3,600	4,000
Weight	kg	14,000	18,000	33,000	38,000	54,000	76,000
Max. actual volume flow*	m ³ /h	110,000	140,000	280,000	325,000	440,000	560,000

Technical data

Type		110	115	120	140	160
L	mm	5,300	5,800	6,000	6,600	7,400
H	mm	4,200	4,700	4,900	5,400	6,000
W	mm	4,500	4,900	5,100	5,600	6,300
Weight	kg	100,000	130,000	150,000	210,000	300,000
Max. actual volume flow*	m ³ /h	710,000	840,000	910,000	1,100,000	1,400,000

Dimensions and weights are for orientation only, and may deviate depending on compressor configuration.

*Max. air volume flow @ 43°C



Last updated March 2024

Compressor features

General data

- Flow rate: min. 100,000 m³/h max. 1,500,000 m³/h
- Pressure ratio: 1.5 – 25
- Power: up to 160MW
- Discharge temperature: up to 350°C
- Compressed medium: air, process gases, CO₂
- Drive: Electric motor, expander, steam turbine or gas turbine
- Flow control: VGV (variable guide vanes), speed control, or combined VGV and speed control
- Bearing arrangement: inline
- Casing split: horizontal
- Combination with radial impellers is possible
- Intermediate cooling(s) is possible

Modular configuration

MAN offers a wide modular configuration range from pre-designed axial compressor packages out of a modular configuration system for applications with repeating parameters to completely customized axial compressor packages for individual process specification. Following API617, chapter 2 and using pre-designed components and established design rules has the advantage of employing solid proven designs, lowering lead times and results in significant cost advantages. We also offer special materials and adapted designs for customized solutions.

Typical applications

- Air separation
- Blast furnace
- Carbon capture, utilization, and storage (CCUS)
- Energy storage
- Fluid catalytic cracking
- Maleic acid
- Methyl tert-butyl ether
- Nitric acid
- Propane dehydrogenation
- Styrene monomer
- Wind tunnels and test facilities

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