

Ful-Vane™ air compressors



The Ful-Vane compressor offers many benefits compared with other compression technologies

- Long compressor life-cycle
- Low energy consumption
- Low maintenance costs

Proven performance

Developed from Fuller® design and technology, FLSmidth's Ful-Vane™ compressors provide more compression with less energy:

- Large inlet area provides efficient capture of large air flows
- Only three moving parts for minimal mechanical losses
- Constant blade-to-cylinder contact results in sustained compression efficiency
- Shaft and bearing design minimizes drive losses
- Inlet/outlet configuration eliminates internal compression losses
- Suited for operation with variable frequency drive

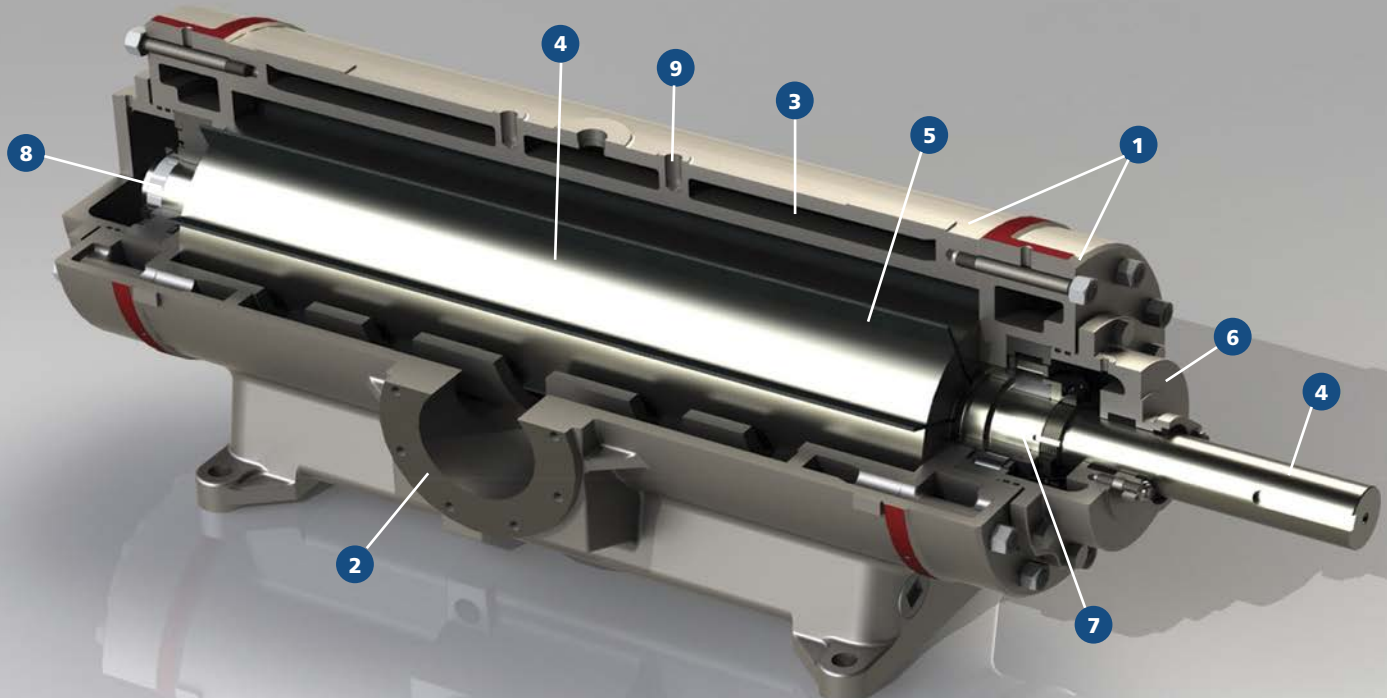
- 1 Cylinder and head casting: ASTM 278 gray iron or ASTM 536 ductile iron
- 2 Inlet/outlet flange: ANSI 150# drilling pattern (250# drilling available on high pressure models)
- 3 Cooling jacket: Integral to cylinder and heads
- 4 Rotor and shaft: Solid single piece ASTM 536 ductile iron
- 5 Blades: B3000™ Carbon fiber laminate
- 6 Packing gland with 3-ring teflon/graphite
- 7 Drive end bearing: Fixed cylindrical roller

- 8 Expansion end bearing: Floating cylindrical roller
- 9 Lubrication: Integral lube fittings with check valves

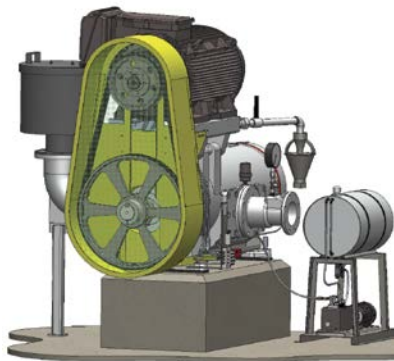
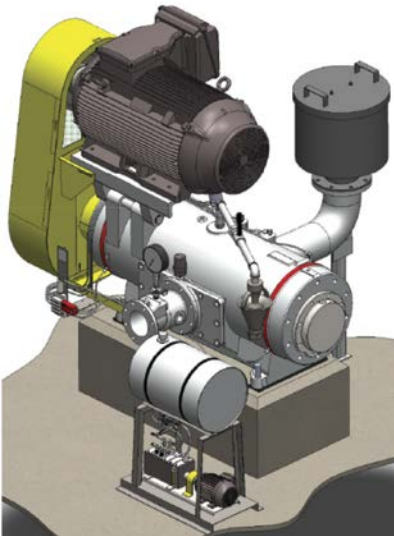
Drive options: Direct, belt, or gearbox. Shaft and bearings suited for maximum HP in all arrangements

Integral overhead mounted motor available on C250 and larger

FLSmidth's Ful-Vane compressor is designed to allow the cylinder to be rebored and rotor to be reslotted several times. This provides the customer with the highest return on investment within the industry.



Ful-Vane™ air compressor: Cost-effective simplicity



FLSmith offers a full range of single-stage and two-stage compressors; from critical parts to complete self-contained packages.

Packages may be custom built to project specifications or FLSmith standards.

Auxiliary components are available upon request.

The Ful-Vane compressor is the perfect marriage with Fuller-Kinyon® pump packages for ultimate reliability.

FLSmith standard compressor base packages include:

Compressor

- Complete cylinder assembly
- Discharge check valve

Drive options

- Belt
- Direct
- Gear box

Driver

- Electric motor

Pressurized lubrication system

- Reservoir
- Pumping unit
- Lube panel

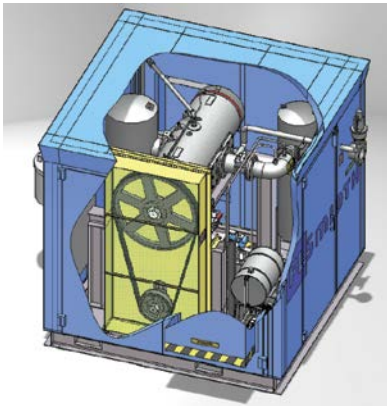
Ancillaries

- Discharge temperature switch
- Water flow switch
- Pressure gauge
- Inlet filter silencer

Options

- Combination base
- Closed-loop cooling system
- Aftercooler
- Mist eliminator

Ful-Pak™ automated air supply packages



FLSmidth offers standard designed Ful-Pak air compressor packages for sizes C135 and larger.

Ready for installation with only cooling water, power and air piping connections needed.

Options

- Closed-loop cooling
- Remote monitoring
- After cooler

Standard Ful-Pak packages include:

Compressor

- Cylinder assembly
- Discharge check valve

Drive

- Belt

Driver

- Electric motor

Pressurized lubrication system

- Reservoir
- Pumping unit
- Tubing

Heavy-duty structural base

Weather/Sound Enclosure

- 85 dba at 1 meter
- Fan cooled
- Hinged doors

PLC control panel

- Instrumentation for and monitoring of:
 - Cooling water flow
 - Lubrication no flow
 - High air discharge temperature
 - High inlet filter delta P
- Panel view HMI

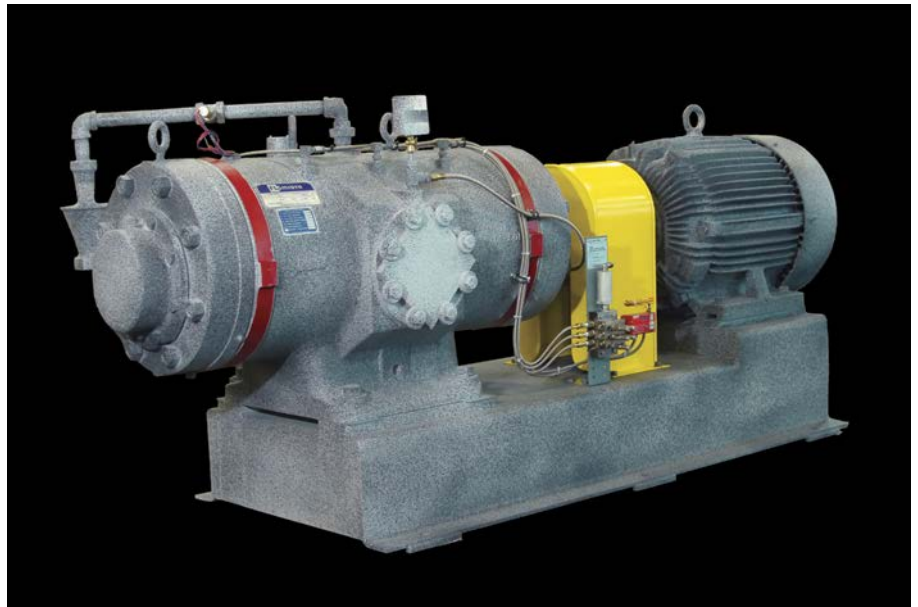
Ancillaries

- Inlet filter
- Inlet silencer
- Discharge silencer
- Discharge pressure relief valve
- Cooling water solenoid shut-off valve
- Cooling system piping

Ful-Vane™ vacuum pumps

FLSmidth's vacuum pumps are designed for a wide range of vacuum services:

- Vacuum filtering
 - Mining
- Flash cooling
 - Refrigeration
- Flash drying
 - Petroleum refining
- General vacuum
 - Chemical plants
 - Can manufacturing
- Vacuum holding
 - Clay, glass and ceramic products
- Vacuum de-gassing
 - Foundries



FLSmidth Ful-Vane vacuum pumps are available in single and two-stage.

- Single-stage applications up to 26" Hg (880 mbar) vacuum
- Two-stage applications up to 29.95" Hg (1000 mbar) vacuum

Designed with double lip seal and packing.

Ful-Vane vacuum pump packages include:

Compressor

- Cylinder assembly
- Discharge check valve

Drive options

- Belt
- Direct
- Gear box

Driver

- Electric motor

Pressurized lubrication system

- Reservoir
- Pumping unit
- Lube panel

Ancillaries

- Inlet vacuum gauge
- Wet service intake filter assembly
- Vacuum relief valve
- Vacuum relief valve filter
- Cooling water flow switch
- Cooling water solenoid valve
- Cooling water temperature switch

Options

- Structural base
- Mist eliminator
- Kevlar vanes

Single-stage compressor performance

PRESSURE SERVICE

FRAME SIZE*	SPEED RANGE (RPM)	15 PSIG		30 PSIG		40 PSIG	
		SCFM	BHP	SCFM	BHP	SCFM	BHP
30/40/50	725-1848	95-350	8-38	90-335	12-52	87-325	14-60
60/70	500-1240	150-450	12-42	146-435	18-60	143-424	21-70
80/100	500-1240	215-635	16-59	207-615	25-85	202-599	30-99
110/120	400-924	295-770	21-66	285-750	32-97	280-735	39-113
135/150	400-924	377-980	27-81	367-955	41-119	360-938	49-140
175/200	325-740	475-1265	33-106	459-1232	51-155	450-1210	61-182
225	325-740	655-1485	45-123	635-1446	71-181	624-1420	85-213
250/300	325-740	740-1940	51-160	720-1890	80-236	708-1856	96-277
350	325-650	995-1985	67-154	966-1932	107-232	949-1897	128-274
375/400/450	300-514	1155-2370	80-180	1121-2305	126-274	1100-2263	151-325
508/608	300-514	1500-3000	104-230	1462-2920	164-349	1435-2867	197-414

* Available in undercut (C) or circular (CC) bore design

Elevation: 107 m (350 ft) ASL (14.50 PSIA)

Inlet temperature: 20°C (68°F)

VACUUM SERVICE

FRAME SIZE**	SPEED RANGE (RPM)	15" Hg Vacuum		20" Hg Vacuum		26" Hg Vacuum	
		ICFM	BHP	ICFM	BHP	ICFM	BHP
30/40/50	725-1500	96-290	5-18	92-279	5-20	72-219	5-18
60/70	500-1000	156-373	7-20	150-360	7-21	123-294	7-19
80/100	500-1000	221-527	9-28	213-508	10-30	174-416	9-27
110/120	400-800	302-685	12-35	293-667	13-37	252-574	11-33
135/150	400-800	388-874	15-41	378-851	16-44	325-732	14-39
175/200	325-650	485-1144	19-56	472-1113	20-60	406-958	17-53
225	325-650	672-1343	26-65	653-1307	28-69	562-1125	24-62
250/300	325-650	762-1755	29-85	741-1707	32-90	638-1470	27-80
350	325-650	1022-2043	38-96	994-1987	41-102	856-1711	35-90

** Available in undercut (C) bore design only

Elevation: 107 m (350 ft) ASL (14.50 PSIA)

Inlet temperature: 20°C (68°F)

Two-stage packages are also available for both pressure - up to 150 PSIG, and vacuum - up to 29.5" Hg (100 mbar) service.

Accessories and parts

B3000™ carbon graphite compressor blades

FLSmidth's B3000 compressor blades are made from carbon graphite, greatly increasing blade strength compared to other blade materials. These compressor blades provide up to 4 times the wear life of phenolic or Kevlar blades. Increased strength means less blade breakage and reduced maintenance costs. And, unlike phenolic and Kevlar blades, B3000 blades are guaranteed to prevent catastrophic cylinder failure due to blade breakage.

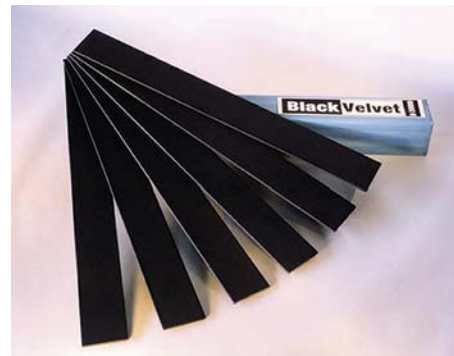
- Reduces cylinder wear
- Reduces lubrication needed
- Reduces maintenance costs
- Extends the life of the compressor



FLSmidth's warehouse in Manheim, Pennsylvania

Ful-Lube™ lubrication system

The Ful-Lube lubricator is a safe and dependable way to protect your compressors from burnout or failure due to loss of lubrication. The Ful-Lube lubrication system is designed to keep your workhorse machinery safely and precisely lubricated for as long as 30 days without refilling - reducing man-hours and minimizing risk of water contamination.



B3000™ carbon compressor blades



Ful-Lube™ compressor lubrication system



Ful-Vane™ compressor bearings

World-class Service and Support



FLSmidth manufactures all compressors at its Manheim, Pennsylvania facility, ensuring that each and every compressor is built and tested to the most rigorous standards.

In addition, FLSmidth has a 24/7 emergency breakdown service for customers, a reconditioning and exchange program, and offers on-site training for rebuilding compressors. We also have a customer consignment inventory management program.

In addition to our Manheim facility, FLSmidth has factory-certified independent service centers and parts warehouses in North and South America.



Factory-trained and certified Ful-Vane™ compressor technicians

Compressor Exchange Program

The FLSmidth Compressor Exchange Program is designed to replace the cylinder assemblies on existing FLSmidth rotary compressors. The program minimizes downtime for replacement and is a highly economical method for restoring compressors to original specifications and performance standards.

Exchange your worn Ful-Vane™ compressor and receive a reconditioned unit built to exacting FLSmidth specifications with new OEM parts. Each exchange compressor carries the same 24-month warranty as a new compressor.



Compressor rotor mounted for reslotting

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