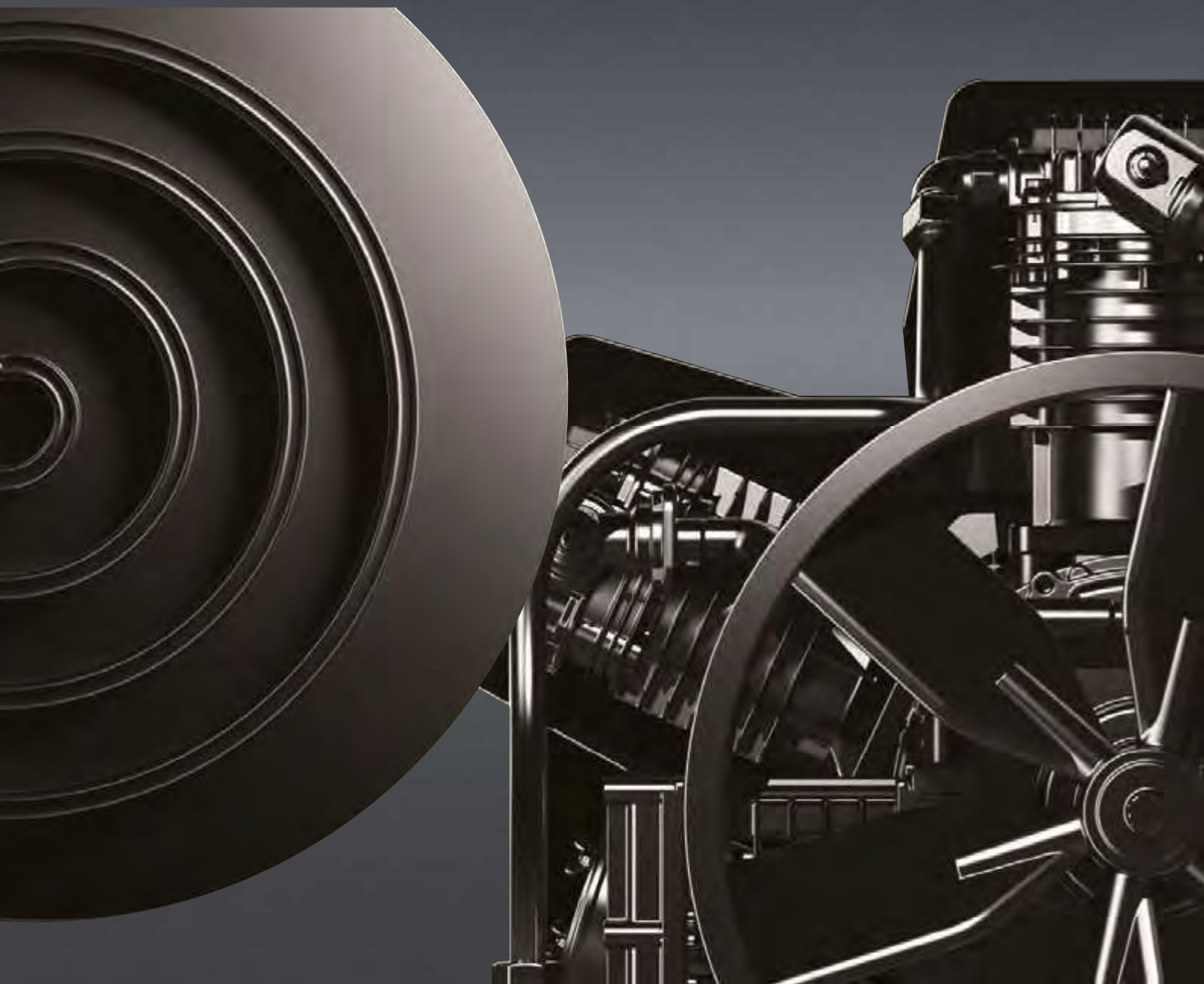
Oil-free compressors

ANEST IWATA

Simplex scroll compressors
Multiplex scroll compressors
Oil-free piston compressors

GLOBAL ONE

The Air of Trust



ANEST IWATA

Yokohama, Japan

Bad Wimpfen, Germany

Location of the company in Europe	Bad Wimpfen, Germany
Company headquarters	Yokohama, Japan
Signing of the company contract	May 1, 1926
Initial public offering	Tokyo Stock Exchange in 1973
Capital	approx. 25,000,000 EUR
Accounting period	April 1 - March, 31
Number of employees	approx. 1,800 (more than 60 % outside Japan)
Main business	• Air compressors and associated products • Spray painting equipment • Vacuum pumps and associated products • Equipment for the application of liquids • Associated products and their installation

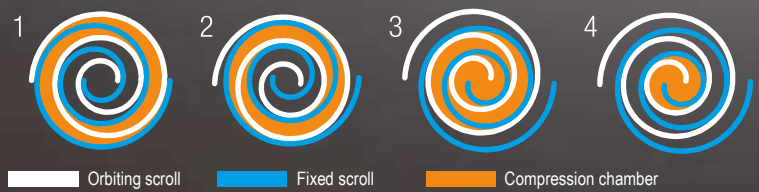
CONTENTS

THE MOST ADVANCED TECHNOLOGIES FOR HIGH-QUALITY COMPRESSED AIR

High-precision processing technology is required to manufacture the components of a scroll compressor.
Thanks to the experience and know-how accumulated over the past twenty years,
we have developed the latest scroll compressors.

Scroll compression principle

As the orbiting scroll moves from position 1 to position 4,
the size of the symmetrical, crescent-shaped compression chambers is gradually reduced.
This causes the air contained in them to compress.
This air is then discharged through the central air outlet.

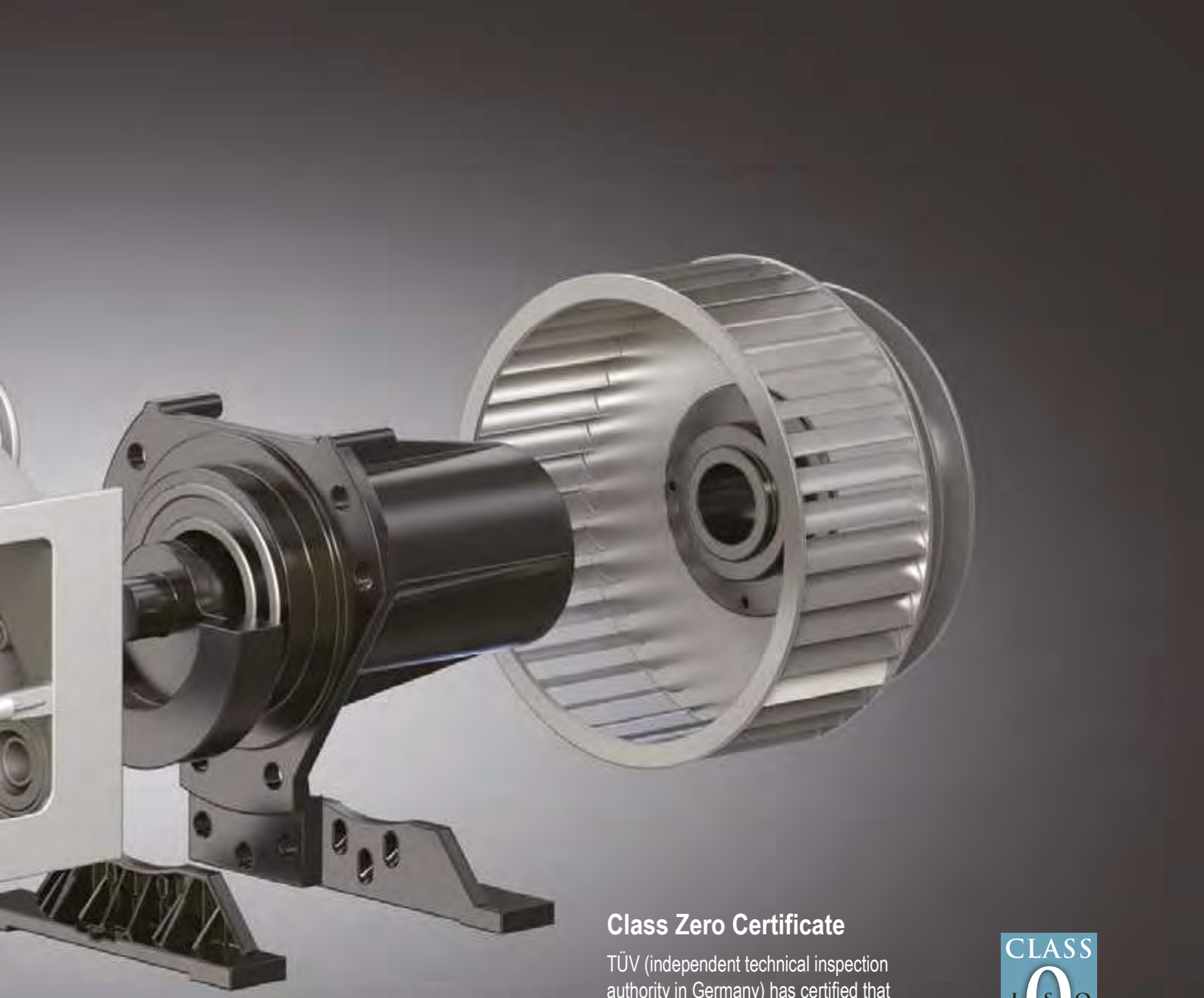


Oil-free drainage

The drainage of oil-lubricated compressors requires special treatment because they contain oil.
Oil-free scroll compressors, on the other hand,
are environmentally friendly, their discharge is clean.

Drainage of an oil-free compressor

Drainage of an oil-lubricated compressor



Class Zero Certificate

TÜV (independent technical inspection authority in Germany) has certified that the air quality of our oil-free scroll compressors complies with “Class 0 (ISO 8573-1:2010[-:-:0])“.

CLASS 0 ISO 8573-1

Clean

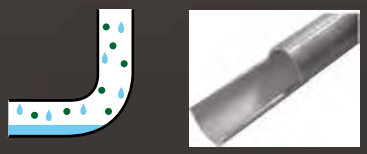
Air from oil-lubricated compressors contains oil and can contaminate the piping.
This does not happen with an oil-free scroll compressor which produces high-quality, clean and oil-free air.

What is Class Zero?

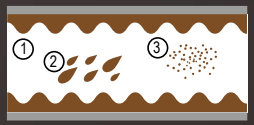
ISO 8573-1 (JIS B8392-1) specifies quality classes for compressed air. Class Zero indicates that liquid oil, oil mist and oil vapor are not present. Since oil vapor in particular cannot be absorbed by conventional air filters, it is important that Class Zero compressors are used in factories where clean air is required.

inside the piping of an oil-lubricated compressor

inside the piping of an oil-free compressor



class	oil concentration mg/m³
0	as specified by the user or supplier of the equipment and better than Class 1
1	≦ 0.01
2	≦ 0.1
3	≦ 1
4	≦ 5



① liquid oil ② oil mist
③ oil steam

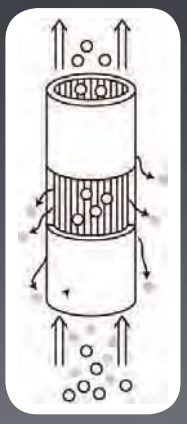
SIMPLEX OIL-FREE SCROLL COMPRESSORS

0.75 kW (1 HP)

Features

- 8,000 hours free of maintenance *3
- Class Zero oil-free air
- Low noise level
- Low vibration
- Compact size
- Wheels for easy transportation
- Model with membrane dryer is available

49 dB (A)



Principle of membrane

Features of the membrane dryer
- Environmentally friendly
- Purging function

• SLPE-07E

rollers ensure a better mobility

scroll air end (1HP) dryer (direct drive)

air receiver made of aluminium (with anti-corrosion coating)

membrane dryer

Modell	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dryer pressure dew point	Tank capacity	Dimensions (w x d x h)	Weight	Voltage
	kW	HP		Max. bar	L/min	m^3/h	dB (A)	Größe	°C	L	mm	kg	V / Hz
SLPE-07E	0.75	1	Druck-schalter	8	70	4.2	49	Rc 3/8" [ball valve]	-	5 (internal)	355 x 590 x 690	50	230 / 50
SLPE-07ED					60	3.6			15		355 x 660 x 690	52	

**1 FAD (Free Air Delivery – flow rate / air volume) is measured at maximum operating pressure.*
**2 Noise level measured at a distance of 1 m according to ISO 11201; tolerance ±3 dB.*
**3 Except intake filters*
- *We recommend to install air filters and an external receiver tank after the compressor.*
- *Even with Class Zero compressors, there can be oil in the piping. This can be caused by the presence of oil in the piping before the compressor is installed or by an accident during the production process.*

Dimensions do not include mounting parts.
Dimensions can be modified without prior notice if required because of design changes.

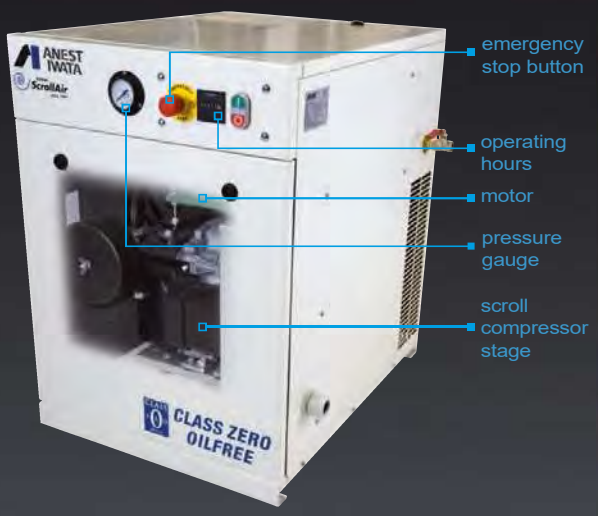
CE

SIMPLEX OIL-FREE SCROLL COMPRESSORS

1.5 kW (2 HP) - 7.5 kW (10 HP)

Features

- 10,000 maintenance-free operating hours *3
- Class Zero oil-free air
- IE3 motor with high efficiency
- Control panel for easy working with the 5.5 / 7.5 kW models
- Low noise level
- Minimal vibrations



SLPE-15(1)E-37(1)E

SLPE-55(1)F-75(1)F

8 bar models

	Model	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dimensions (w x d x h)	Weight	Tank capacity	Voltage
		kW	HP		Max. bar	L/min	m^3/h	dB (A)	Size	mm	kg	L	V / Hz
standard	SLPE-15E	1.5	2	pressure switch	8	155	9.3	54	Rc 3/8"	535 x 685 x 745	80	-	230 / 50
	SLPE-22E-T	2.2	3			243	14.6	56			85		400 / 50
	SLPE-37E	3.7	5			404	24.2	59			105		
	SLPE-55F	5.5	7.5	pressure sensor		596	35.8	55	Rc 3/4"	605 x 970 x 1,195	205		
	SLPE-75F	7.5	10			808	48.5	57			210		
with tank	SLPE-15E-90/270	1.5	2	pressure switch		155	9.3	56	Rc 1/2"	775 x 1,454 x 1,340 557 x 1,476 x 1,430	150 / 200	90 / 270	230 / 50
	SLPE-22E-T-90/270	2.2	3			243	14.6	61			155 / 205		400 / 50
	SLPE-37-90/270	3.7	5			404	24.2	59			175 / 225		
with tank with dryer	SLPE-15ED-90/270	1.5	2	pressure switch		155	9.3	57	Rc 1/2"	775 x 1,454 x 1,340 557 x 1,476 x 1,430	175 / 225	90 / 270	230 / 50
	SLPE-22E-TD-90/270	2.2	3			234	14.6	63			180 / 230		400 / 50
	SLPE-37ED-90/270	3.7	5			404	24.2	60			200 / 250		

10 bar models

	Model	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dimensions (w x d x h)	Weight	Tank capacity	Voltage
		kW	HP		Max. bar	L/min	m^3/h	dB (A)	Size	mm	kg	L	V / Hz
standard	SLPE-151E	1.5	2	pressure switch	10	119	7.1	55	Rc 3/8"	535 x 685 x 745	80	-	230 / 50
	SLPE-221E-T	2.2	3			207	12.4	57			85		400 / 50
	SLPE-371E	3.7	5			337	20.2	59			105		
	SLPE-551F	5.5	7.5	pressure sensor		435	26.1	59	Rc 3/4"	605 x 970 x 1,195	205		
	SLPE-751F	7.5	10			665	39.9	61			210		
with tank	SLPE-151E-90/270	1.5	2	pressure switch		119	7.1	58	Rc 1/2"	775 x 1,454 x 1,340 557 x 1,476 x 1,430	150 / 200	90 / 270	230 / 50
	SLPE-221E-T-90/270	2.2	3			207	12.4	57			155 / 205		400 / 50
	SLPE-371-90/270	3.7	5			337	20.2	62			175 / 225		
with tank with dryer	SLPE-151ED-90/270	1.5	2	pressure switch		119	7.1	59	Rc 1/2"	775 x 1,454 x 1,340 557 x 1,476 x 1,430	175 / 225	90 / 270	230 / 50
	SLPE-221E-TD-90/270	2.2	3			207	12.4	58			180 / 230		400 / 50
	SLPE-371ED-90/270	3.7	5			337	20.2	66			200 / 250		

** 1 FAD (Free Air Delivery – flow rate / air volume) is measured at maximum operating pressure.*
** 2 Noise level measured at a distance of 1 m according to ISO 11201; tolerance ±3 dB.*
** 3-1 Except intake filters*
** 3-2 5,000 operating hours with 10 bar models and 8,000 operating hours with 5.5 kW and 7.5 kW models*
- *We recommend to install air filters and an external receiver tank after the compressor.*
- *Even with Class Zero compressors, there can be oil in the piping.*
  This can be caused by the presence of oil in the piping before the compressor is installed or by an accident during the production process.

Adsorption dryer is also available.

Dimensions do not include mounting parts.
Dimensions can be modified without prior notice if required because of design changes.

CE

Multiplex oil-free scroll compressors

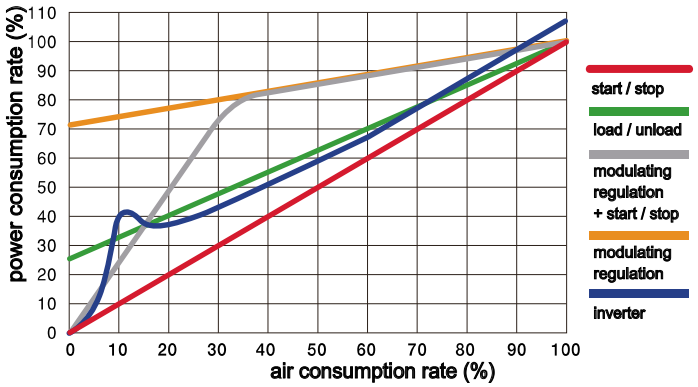
11 kW (15 HP) - 30 kW (40 HP)

Features

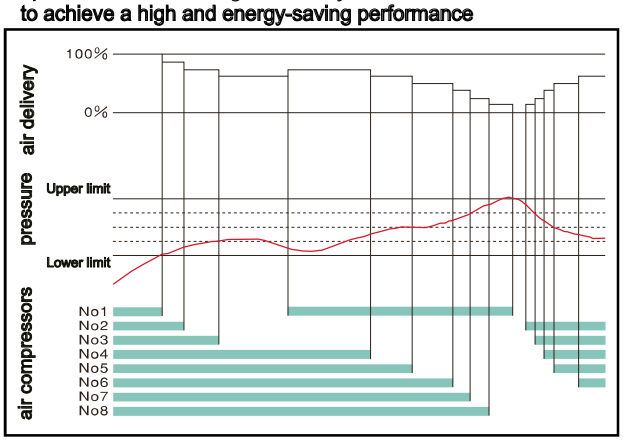
- Multi-stage control system to save energy
- Class Zero oil-free air
- 10,000 maintenance-free operating hours with the 8 bar models *3
- IE3 motor with high efficiency
- Touch screen for monitoring running conditions
- Low noise level
- Minimal vibrations

multi-stage scroll compressor

differences in power consumption depending on the control method



operation of a multi-stage control system to achieve a high and energy-saving performance



energy-saving operation with 4 (diagram above shows 8) compressors when consumption is low

full operation with 6 (diagram above shows 8) compressors when consumption is high

8 bar models

Model	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dimensions (w x d x h)	Weight	Voltage
	kW	HP		Max. bar	L/min	m^3/h	dB (A)	Size	mm	kg	V / Hz
SLPE-110E	11 (3 x 3.7)	15.0	pressure sensor	8	1,211	73	59	Rc 1"	655 x 960 x 1,555	365	400 / 50
SLPE-150E	15 (4 x 3.7)	20.0			1,615	96.9	61			435	
SLPE-220E	22 (6 x 3.7)	30.0			2,422	145	64	Rc 1-1/2"	1,370 x 955 x 1,555	745	
SLPE-300E	30 (8 x 3.7)	40.0			3,230	194	67			885	

10 bar models

Model	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dimensions (w x d x h)	Weight	Voltage
	kW	HP		Max. bar	L/min	m^3/h	dB (A)	Size	mm	kg	V / Hz
SLPE-1101E	11 (3 x 3.7)	15.0	pressure sensor	10	1,009	61	60	Rc 1"	655 x 960 x 1,555	365	400 / 50
SLPE-1501E	15 (4 x 3.7)	20.0			1,346	80.8	62			435	
SLPE-2201E	22 (6 x 3.7)	30.0			2,018	121	66	Rc 1-1/2"	1,370 x 955 x 1,555	745	
SLPE-3001E	30 (8 x 3.7)	40.0			2,692	162	65			885	

** 1 FAD (Free Air Delivery – flow rate / air volume) is measured at switch-on pressure.*
** 2 Noise level measured at a distance of 1 m according to ISO 11201; tolerance ±3 dB.*
** 3-1 Except intake filters*
** 3-2 5,000 operating hours with 10 bar models*

- *We recommend to install air filters and an external receiver tank after the compressor.*
- *Even with Class zero compressors, there can be oil in the piping.*
  This can be caused by the presence of oil in the piping before the compressor is installed or by an accident during the production process.

Dimensions do not include mounting parts.
Dimensions can be modified without prior notice if required because of design changes.

CE

LIST OF TECHNICAL SPECIFICATIONS

8 bar models

	Model	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dimensions (w x d x h)	Weight	Tank capacity	Voltage
		kW	HP		Max. bar	L/min	m^3/h	dB (A)	Size	mm	kg	L	V / Hz
standard	SLPE-07E	0.75	1.0	pressure switch	8	70	4.2	49	Rc 3/8	355 x 590 x 690	50	5 (intern)	230 / 50
	SLPE-07ED					60	3.6			355 x 660 x 690	52		400 / 50
	SLPE-15E	1.5	2.0			155	9.3	54		535 x 685 x 745	80	-	
	SLPE-22E-T	2.2	3.0			243	14.6	56			85		
	SLPE-37E	3.7	5.0			404	24.2	59			105		
	SLPE-55F	5.5	7.5	pressure sensor		596	35.8	55	Rc 3/4	605 x 970 x 1,195	205		
	SLPE-75F	7.5	10.0			808	48.5	57			210		
	SLPE-110E *	11.0	15.0			1,211	73	59	Rc 1	655 x 960 x 1,555	365		
	SLPE-150E *	15.0	20.0			1,615	96.9	61			435		
	SLPE-220E *	22.0	30.0			2,422	145	64	Rc 1-1/2	1,370 x 955 x 1,555	745		
	SLPE-300E *	30.0	40.0			3,230	194	67			885		
*1 with tank	SLPE-15E-90/270	1.5	2.0	pressure switch	8	155	9.3	56	Rc 1/2	775 x 1,454 x 1,340 557 x 1,476 x 1,430	150 / 200	90 / 270	230 / 50
	SLPE-22E-T-90/270	2.2	3.0			243	14.6	58			155 / 205		400 / 50
	SLPE-37E-90/270	3.7	5.0			404	24.2	61			175 / 225		
*1 with tank *2 with dryer	SLPE-15ED-90/270	1.5	2.0	pressure switch	8	155	9.3	57	Rc 1/2	775 x 1,454 x 1,340 557 x 1,476 x 1,430	175 / 225	90 / 270	230 / 50
	SLPE-22E-TD-90/270	2.2	3.0			243	14.6	59			180 / 230		400 / 50
	SLPE-37ED-90/270	3.7	5.0			404	24.2	62			200 / 250		

10 bar models

	Model	Power		Operation control	Operating pressure	FAD (*1)		Noise level (*2)	Outlet	Dimensions (w x d x h)	Weight	Tank capacity	Voltage
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	SLPE-221E-T	2.2	3.0			207	12.4	57			85		400 / 50
	SLPE-371E	3.7	5.0			337	20.2	59			105		
	SLPE-551F	5.5	7.5	pressure sensor		435	26.1	59	Rc 3/4"	605 x 970 x 1,195	205		
	SLPE-751F	7.5	10.0			665	39.9	61			210		
	SLPE-1101E *	11.0	15.0			1,009	61	60	Rc 1"	655 x 960 x 1,555	365		
	SLPE-1501E *	15.0	20.0			1,346	80.8	62			435		
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	SLPE-221E-T-90/270	2.2	3.0			207	12.4	59			155 / 205		400 / 50
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	SLPE-221E-TD-90/270	2.2	3.0			207	12.4	60			180 / 230		400 / 50
	SLPE-371ED-90/270	3.7	5.0			337	20.2	66			200 / 250		

FAD (Free Air Delivery – flow rate / air volume) is measured at maximum operating pressure.
**FAD Mulitplex is measured at switch-on pressure.*
Dimensions do not include mounting parts.
＊Dimensions can be modified without prior notice if required because of design changes.

**1 - horizontal tank, galvanized inside and outside*
**2 - refrigeration dryer or adsorption dryer*

Oil-free Compressor
ScrollAir
since 1991

1		2	3	4		5 *3	6 *4		7 *5		8 *6
SLPE	-	22	1	E	-	M	D	-	C2	-	270

1	Model	SLPE	Oil-free scroll compressor
2	Power	07	0.75 kW / 1 HP
		15	1.5 kW / 2 HP
		22	2.2 kW / 3 HP
		37	3.7 kW / 5 HP
		55	5.5 kW / 7,5 HP
		75	7.5 kW / 10 HP
		110	11 kW / 15 HP
		150	15 kW / 20 HP
		220	22 kW / 30 HP
		300	30 kW / 40 HP
3	Max. pressure	blank	8 bar
		1	10 bar
4	Series	E	E-series
		F	F-series
5 *3	Phase	M	one phase, 230 V / 50 Hz
		T	three phases, 400 V / 50 Hz
6	Dryer	blank	without dryer
		D *4	with refrigeration dryer
		D2 *4	with adsorption dryer
7	Control	blank	control by switch
		C2 *5	control by controller
		C3 *5	control by controller with IOT
8	Tank	blank	without tank
		90 *6	with 90 L tank
		270 *6	with 270 L tank

**3 : only 2.2 kW model*
**4 *5 *6 : only 1.5 & 2.2 & 3.7 kW models*

OIL-FREE RECIPROCATING COMPRESSORS

In 1979 we developed a wide range of oil-free pendulum compressors,
the technology of which we have been improving ever since.
They are characterized by advantages that are unique to us,
such as composite resin pistons and high pressure as well as a long service life.

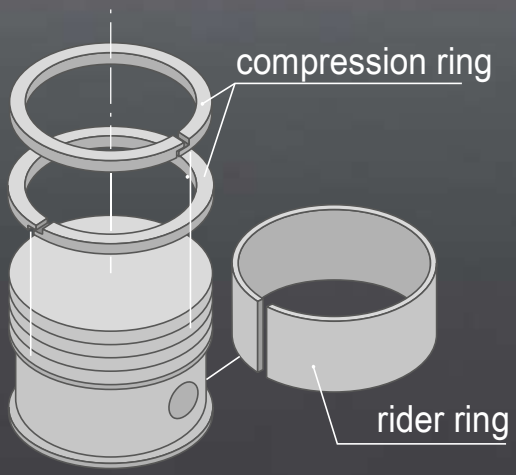
FEATURES:

- Oil-free air
- Composite resin piston
- Long maintenance intervals (10,000 operating hours)
- Long durability for a continuous utilization
- A wide range offer (0.75 kW to 11 kW)
- Two-way cooling system (above 2.2 kW)
- Two stages at 14 bar (above 5.5 kW)

The composite resin piston

The composite resin piston is made of a heat-resistant and thermosetting resin.
It has excellent wear protection characteristics and can be used permanently at high temperatures.
It eliminated the need for a rider ring, which is essential for conventional oil-free air compressors.
This means that no friction welding or “jamming” is possible, which can often occur in the mechanism of the rider ring.
The compression ring is made of Teflon resin, which has high heat and wear resistance features.

■ **Conventional oil-free pistons**



■ **Composite resin pistons**

● **LP (first stage)**

● **HP (second stage)**

TFPE SERIES

The oil-free models provide high-quality and clean air.

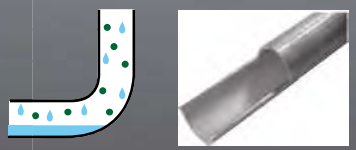
APPLICATIONS

- food & beverages
- dentistry & medicine
- pharmacy
- laboratories
- paint shops
- agriculture
- fiber industry
- and more

Clean

Air from oil-lubricated compressors contains oil and can contaminate the piping.
This does not happen with an oil-free piston compressor which produces high-quality, oil-free air.

INSIDE THE PIPING OF AN OIL-LUBRICATED COMPRESSOR



INSIDE THE PIPING OF AN OIL-FREE COMPRESSOR

Drainage of an oil-free compressor

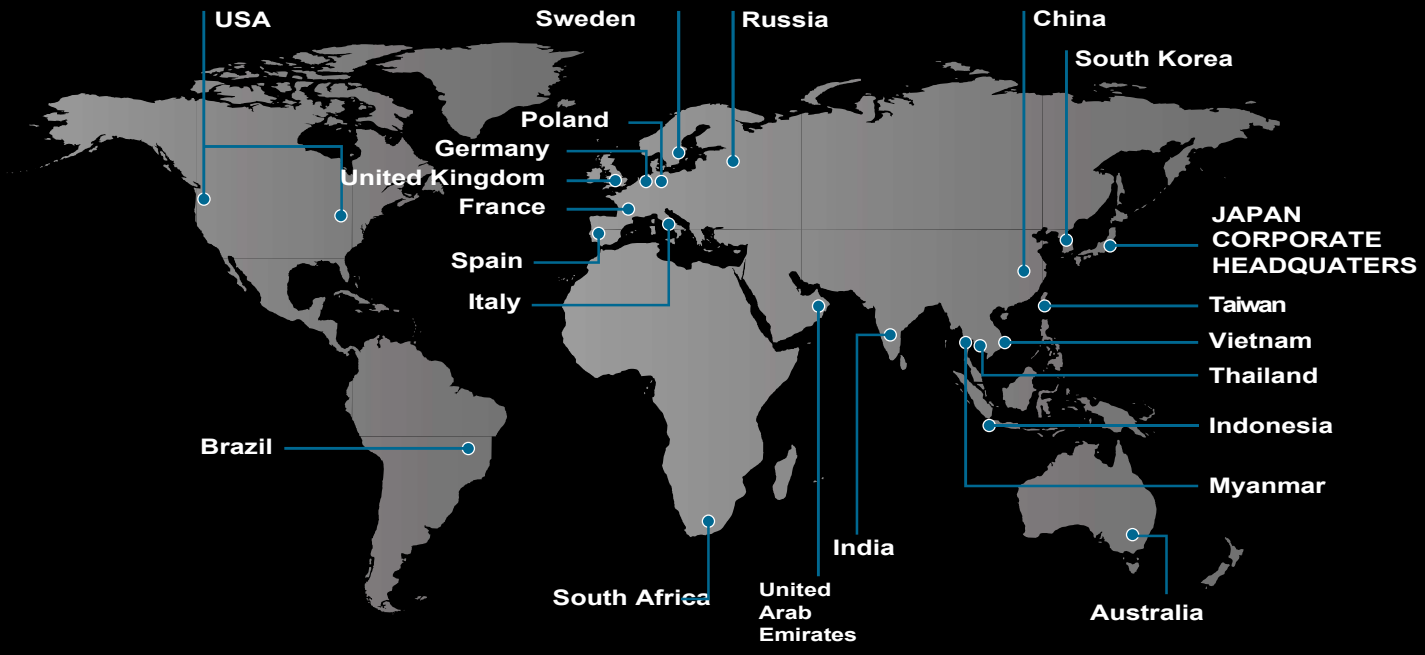
Drainage of an oil-lubricated compressor

Model	Power		Operation control	Operating pressure	Suction capacity	FAD	Noise level	Outlet	Tank capacity	Weight	Dimensions	Voltage
	kW	HP		Max. bar	L/min	L/min	dB (A)	Size	L	kg	(w x d x h) mm	V / Hz
TFPE-15-G-50	1.5	2.0	Pressure switch	10	270	150	72	G 1/2"	50	50	900 x 350 x 750	230 / 50
TFPE-22-G-100	2.2	3.0		10	422	220	73		100	83	1,150 x 370 x 820	400 / 50
TFPE-37-G-200	3.7	5.0		10	643	330	80		200	140	1,500 x 500 x 1,150	400 / 50
TFPE-55-G-270	5.5	7.0		14	750	520	81		270	210	1,550 x 500 x 1,150	400 / 50
TFPE-75-G-270	7.5	10.0		14	1,060	760	82		270	230	1,550 x 580 x 1,200	400 / 50
TFPE-110-G-500	11.0	15.0		14	1,600	1,060	81	1"	500	350	1,980 x 600 x 1,400	400 / 50

Model	Power		Operation control	Operating pressure	Suction capacity	FAD	Noise level	Outlet	Tank capacity	Weight	Dimensions	Voltage
	kW	HP		Max. bar	L/min	L/min	dB (A)	Size	L	kg	(w x d x h) mm	V / Hz
BFPE-15-G	1.5	2.0	Pressure switch	10	270	150	72	G 1/2"	3	30	700 x 400 x 500	230 / 50
BFPE-22-G	2.2	3.0		10	422	220	73		3	55	700 x 400 x 500	400 / 50
BFPE-37-G	3.7	5.0		10	643	330	80		3	90	700 x 400 x 500	400 / 50
BFPE-55-G	5.5	7.0		14	750	520	81		3	145	1,000 x 700 x 800	400 / 50
BFPE-75-G	7.5	10.0		14	1,060	760	82		3	165	1,000 x 700 x 800	400 / 50
BFPE-110-G	11.0	15.0		14	1,600	1,060	81	G 1"	3	225	1,300 x 800 x 800	400 / 50

Dimensions without mounting parts
** Dimensions can be modified without prior notice if required because of design changes.*
FAD (Free Air Delivery – flow rate / air volume) is measured at maximum operating pressure.

ANEST IWATA GLOBAL NETWORK



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