

Lupamat
compressor

50th
year

efficient energy



Our commitment is to supply high quality and efficient solutions and we will always respect the environment that we interact with.





Dirinler Machinery Industry

In 1952 Dirinler Machinery was established in Izmir, located in an industrial facility of 12,000 sqm which was part of an established land property of 24.000 sqm. **Dirinler Machinery Industry** Company has been manufacturing C type Frame Eccentric Presses with capacities varying between 15 tons and 250 tons. Dirinler manufactured also H type Eccentric Presses with capacities varying between 160 tons and 1000 tons, C type Hydraulic Presses, with capacities varying between 60 tons and 160 tons, H type Hydraulic Presses with capacities varying between 250 tons and 1000 tons.

Dirinler Industry Machineries

Dirinler Industrial Machinery has been manufacturing CNC Turning Machines/Lathes, CNC Vertical Machining Lathes, CNC Pattern Machining Centers, Double Columned CNC Machining (Freze) Centers. A wide range of machines manufactured by Dirinler Industrial Machinery are being exported to approximately 50 countries worldwide.

Dirinler Foundry Industry

In 1974 Dirinler Foundry was founded to produce casting parts. Dirinler Foundry was established on a land of totally 36.000 sqm (20.000 sqm of which is used as indoor area) and has a annual production capacity of 15.000 tons. Our foundry has been casting very large and heavy parts for renewable energy sector such as wind energy industry, the Marine Sectors such as shipbuilding industry. Dirinler Foundry also produced castings for the heavy machinery industry, and mould tooling for the automotive industry. It has also produced castings for valves and pumps (of up to of 3500 mm diameter). Dirinler now exports rough and machined casting parts especially to Europe.



www.dirinler.com.tr



www.drinns.com.tr



www.dirinlerdokum.com

Screw Air Compressors



/Micro-Processor

Control system equipped with Micro-processor and LCD screen designed especially for Lupamat is used as a standard feature on our compressors of LKV series. Compressor's operation mode, pressure and temperature values, maintenance schedules, troubles shooting, replacements schedules for ball-bearings, oil, oil filter and separator's filtering elements and many more parameters can be monitored and components diagnosed on the LCD screen equipped with Micro-processor. Remote control system exists in the panel.

/Oil Separation Tank

It separates air/oil mixture delivered from compressor in two stages. Oil particles which remain in the oil are measured to be 2-3 ppm at the tank output. Lubrication is provided by pressure differential in the oil tank. All separator tanks are CE certificated.

/Air Suction Filter

Two staged air suction filter, dust collection container with self-discharging system, very easy changeable components, paper elements, air filter set with electric indicator of Mann+Hummel brand are used on the air suction filter.

/Proportional Control valve

The PCV matches output flow to system requirement; this is achieved by the proportional closing/opening of the Inlet Valve. This is a standard feature in the Lupamat compressor.

/Cooling System / Radial Fan

Air discharged from the air/oil separator is cooled by the after cooler down to a temperature of around 10-15 °C higher than the ambient temperature, this is termed as CTD (Cold Temperature Difference). The oil cooler Temperature is controlled by thermostatic mixing valve and ensuring the supply of oil at the correct temperature to the Air End. Compressed air and oil lines are made of steel pipes and hydraulic hose in a way not to be effected from vibrations and expansions. Air and oil cooling in our compressors of 75 kW and above is provided by a radial fan in order to have more efficient cooling and less noise. Fan motor is also driven with inverter for saving energy.

/Compressor Cabin Protection

Our compressors of LKV types are completely and entirely assembled on the chassis and equipped as a standard feature with mechanically locking covers, which can be opened from every side, to facilitate the repair, maintenance and control processes in accordance with the EC regulations and standards. For noise insulation inside the cabin, its inside walls are covered with fire proof foam material and accordingly, noise level is decreased to a minimum level.



/Inverter

Mitsubishi trade marked frequency drive units are used for the series LKV DHK Plus and LKV DHK Premium series.

/Electric Panel

Engine starter contactors, auxiliary contactors, engine protection thermal relays, fuses, phase order protection relay with thermostat, which controls engine temperature and rotation direction of the screw block, transformer etc. are selected from the brands certified with the CE Mark and used as a standard feature on the electric control system of our compressors of LKV series. MITSUBISHI trademarked components are used in our system.

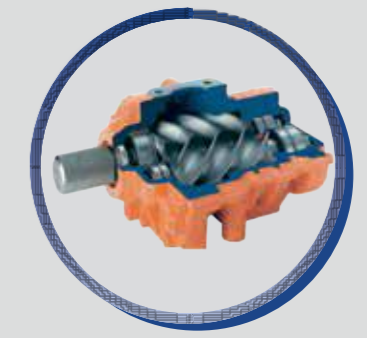


/Electric Motor

Asynchronous electric engines which are of insulation class F ensuring energy saving, IP 55 class, IE3/IE4 efficiency class and certified with CE, are used on our compressors of LKV series.

/Hydraulic Connections

GATES / VITILLO branded hoses are used in our hydraulic connections. Hydraulic connections are manufactured at our facility with the state-of-the-art machinery which allows absolutely no leakage.



/Screw Block

AERZENER, GARDNER DENVER, TERMOMECCANICA brands are used in Lupamat Screw Compressors. Single staged, oil injected airends are manufactured with technology, assuring top quality, high efficiency and low energy consumption.



Screw Air Compressors

PLUS & PREMIUM series

Direct Driven screw compressors with or without inverter

Lupamat is a strict follower of advanced technologies thus its support and funding of R&D work and studies to develop highly energy efficient systems. The reliable and economical Lupamat screw air compressors will supply longevity and reliability to all our end users for a very long time with minimum unplanned down time. Complete customer satisfaction is Lupamat's vision.

We, as Lupamat, have been offering various alternatives on our compressors of LKV series, according to customer requirements and applications. LKV type compressors are manufactured with oil lubrication and air cooled systems, water cooled versions are also available. Lupamat also offer oil free air compressor product range.



Product Specification:

- Single staged, oil lubricated screw block,
- After cooled air cooler,
- Oil cooled,
- Motorized cooler fan,
- Air and oil cooling on our compressors of 75 kW and above is provided with radial fan, which provides more efficient cooling and low noise. Inverter is used for the fan motor.
- Electric Motor insulation class: F, protection class: IP55, energy efficiency class: IE3/IE4
- Toothed V-belt on the models driven with belt-pulley,
- Drive system is provided by elastic coupling attached to the Air End and electric motor on the direct coupled models,
- Drive motion is transferred by an elastic coupling attached to the Air End and electric motor on the DHK types, which has direct coupled inverter and provides energy saving, and the inverter is part of the electric panel
- Electric panel is in accordance with the CE Standards,
- Control system equipped with LCD screen indicating the compressor's operation mode, pressure and temperature values, maintenance schedules, replacements schedules for oil, oil filter and separator's filters, replacement/maintenance schedules for the screw block's and engine's ball-bearings, troubles and warnings, parameter values etc.
- Control panel equipped with Micro-processor,
- Air suction filters and oil filters with indicator of Mann+Hummel brand,
- Air suction control valve and piston,
- Thermostatic Mixing valve, which controls the oil temperature,
- Proportional control valve, which provides energy saving and orderly operation of the compressor and a production rate in accordance with the amount of air used,
- Overpressure relief valve, which ensures safety for the compressor and its user,
- Noise insulation cabin,
- Cabin covers, which can be easily opened from every side,
- Performance data is in accordance with ISO 1217: 2009 Annex: C & E
- Working noise level is measured as dB (A) according to the ISO 2151,
- Screw's output pressure sensors,
- Screw's output temperature sensors,
- Conformance Certificate according to the CE-Regulations and Standards.

D PLUS Series (Direct Driven)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power
	bar (g)	m ³ /min	kW
LKV 22 D PLUS	7 - 10 - 13	3,52 - 3,10 - 2,42	22
LKV 30 D PLUS	7 - 10 - 13	4,78 - 4,03 - 3,62	30
LKV 37 D PLUS	7 - 10 - 13	5,89 - 4,97 - 4,41	37
LKV 45 D PLUS	7 - 10 - 13	7,32 - 6,16 - 5,18	45
LKV 55 D PLUS	7 - 10 - 13	8,93 - 7,67 - 6,44	55
LKV 75 D PLUS	7 - 10 - 13	12,31 - 10,71 - 9,28	75
LKV 90 D PLUS	7 - 10 - 13	14,10 - 12,26 - 10,64	90
LKV 110 D PLUS	7 - 10 - 13	18,84 - 16,21 - 13,26	110
LKV 132 D PLUS	7 - 10 - 13	20,72 - 18,63 - 15,98	132
LKV 160 D PLUS	7 - 10 - 13	26,82 - 22,02 - 19,02	160
LKV 185 D PLUS	7 - 10 - 13	29,41 - 25,27 - 21,88	185
LKV 200 D PLUS	7 - 10 - 13	30,82 - 27,73 - 24,02	200
LKV 250 D PLUS	7 - 10 - 13	44,30 - 35,90 - 30,00	250
LKV 315 D PLUS	7 - 10 - 13	51,49 - 43,70 - 38,50	315
LKV 355 D PLUS	7 - 10 - 13	60,08 - 51,86 - 43,10	355
LKV 400 D PLUS	7 - 10 - 13	66,67 - 59,61 - 49,47	400
LKV 450 D PLUS	7 - 10 - 13	73,08 - 66,11 - 56,83	450

D PREMIUM Series (Direct Driven High Efficiency)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power
	bar (g)	m ³ /min	kW
LKV 22 D PREMIUM	7 - 10 - 13	4,31 - 3,84 - 3,03	22
LKV 30 D PREMIUM	7 - 10 - 13	5,61 - 4,74 - 3,98	30
LKV 37 D PREMIUM	7 - 10 - 13	7,08 - 6,09 - 4,88	37
LKV 45 D PREMIUM	7 - 10 - 13	8,54 - 7,34 - 6,01	45
LKV 55 D PREMIUM	7 - 10 - 13	11,26 - 9,80 - 8,11	55
LKV 75 D PREMIUM	7 - 10 - 13	14,32 - 12,29 - 9,98	75
LKV 90 D PREMIUM	7 - 10 - 13	17,19 - 14,81 - 12,66	90
LKV 110 D PREMIUM	7 - 10 - 13	22,40 - 17,41 - 14,94	110
LKV 132 D PREMIUM	7 - 10 - 13	24,46 - 22,20 - 17,82	132
LKV 160 D PREMIUM	7 - 10 - 13	29,83 - 24,99 - 21,90	160
LKV 185 D PREMIUM	7 - 10 - 13	34,96 - 29,43 - 24,54	185
LKV 200 D PREMIUM	7 - 10 - 13	39,49 - 33,15 - 27,73	200
LKV 250 D PREMIUM	7 - 10 - 13	48,03 - 40,90 - 33,51	250
LKV 315 D PREMIUM	7 - 10 - 13	56,09 - 48,39 - 43,10	315

• FAD: Free Air Delivery

• FAD is measured according to ISO 1217:2009 Annex C

• Lupamat reserves the right to alter the given data without prior notice.

DHK PLUS Series

(Direct Driven with Inverter)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power
	bar (g)	m ³ /min	kW
LKV 11 DHK PLUS	7 - 10 - 13	1,75 - 1,50 - 1,29	11
LKV 15 DHK PLUS	7 - 10 - 13	2,38 - 2,01 - 1,65	15
LKV 18,5 DHK PLUS	7 - 10 - 13	2,91 - 2,50 - 2,09	18,5
LKV 22 DHK PLUS	7 - 10 - 13	3,70 - 3,10 - 2,60	22
LKV 30 DHK PLUS	7 - 10 - 13	4,98 - 4,24 - 3,66	30
LKV 37 DHK PLUS	7 - 10 - 13	6,06 - 5,23 - 4,45	37
LKV 45 DHK PLUS	7 - 10 - 13	7,32 - 6,35 - 5,45	45
LKV 55 DHK PLUS	7 - 10 - 13	9,18 - 7,82 - 6,51	55
LKV 75 DHK PLUS	7 - 10 - 13	12,36 - 10,87 - 9,37	75
LKV 90 DHK PLUS	7 - 10 - 13	14,25 - 12,65 - 11,01	90
LKV 110 DHK PLUS	7 - 10 - 13	19,42 - 16,87 - 14,64	110
LKV 132 DHK PLUS	7 - 10 - 13	22,36 - 20,29 - 16,80	132
LKV 160 DHK PLUS	7 - 10 - 13	26,97 - 23,12 - 19,80	160
LKV 185 DHK PLUS	7 - 10 - 13	30,53 - 26,35 - 22,74	185
LKV 200 DHK PLUS	7 - 10 - 13	32,08 - 28,23 - 24,45	200
LKV 250 DHK PLUS	7 - 10 - 13	45,90 - 38,60 - 32,50	250
LKV 315 DHK PLUS	7 - 10 - 13	53,23 - 46,70 - 41,00	315
LKV 355 DHK PLUS	7 - 10 - 13	61,05 - 51,53 - 44,70	355

• FAD is measured according to ISO 1217:2009 Annex E

DHK PREMIUM Series

(Direct Driven with Inverter / High Efficiency)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power
	bar (g)	m ³ /min	kW
LKV 11 DHK PREMIUM	7 - 10 - 13	2,05 - 1,72 - 1,40	11
LKV 15 DHK PREMIUM	7 - 10 - 13	2,84 - 2,39 - 1,98	15
LKV 18,5 DHK PREMIUM	7 - 10 - 13	3,60 - 3,10 - 2,30	18,5
LKV 22 DHK PREMIUM	7 - 10 - 13	4,30 - 3,90 - 3,10	22
LKV 30 DHK PREMIUM	7 - 10 - 13	5,90 - 5,10 - 3,90	30
LKV 37 DHK PREMIUM	7 - 10 - 13	7,10 - 6,20 - 5,00	37
LKV 45 DHK PREMIUM	7 - 10 - 13	8,90 - 7,80 - 6,20	45
LKV 55 DHK PREMIUM	7 - 10 - 13	11,30 - 9,90 - 8,60	55
LKV 75 DHK2 PREMIUM	7 - 10	14,45 - 12,33	75
LKV 75 DHK PREMIUM	7 - 10 - 13	15,20 - 12,20 - 10,80	75
LKV 90 DHK PREMIUM	7 - 10 - 13	18,10 - 15,10 - 12,60	90
LKV 110 DHK1 PREMIUM	7 - 10 - 13	21,40 - 18,20 - 15,40	110
LKV 132 DHK1 PREMIUM	7 - 10 - 13	25,50 - 22,20 - 18,40	132
LKV 132 DHK PREMIUM	7 - 10	26,60 - 22,10	132
LKV 160 DHK PREMIUM	7 - 10	31,30 - 26,00	160
LKV 160 DHK2 PREMIUM	13	21,20	160
LKV 185 DHK PREMIUM	7 - 10 - 13	35,50 - 29,50 - 24,30	185
LKV 200 DHK PREMIUM	7 - 10 - 13	40,00 - 34,30 - 28,50	200
LKV 250 DHK PREMIUM	7 - 10 - 13	50,00 - 42,90 - 33,90	250
LKV 315 DHK PREMIUM	7 - 10 - 13	57,08 - 49,50 - 42,80	315
LKV 355 DHK PREMIUM	7 - 10 - 13	64,42 - 55,71 - 47,18	355
LKV 400 DHK PREMIUM	7 - 10 - 13	71,49 - 62,24 - 53,22	400
LKV 450 DHK PREMIUM	10 - 13	68,64 - 59,15	450

Screw Air Compressors

MI series Belt Driven screw compressors

Lupamat LKV-MI series screw air compressors are equipped with oil lubricated and air cooling system. This compressor has an Air End block and is equipped with V-belt-pulley driven by electric motor. The cooling system is air cooled and the package is seated on rubber wedges and connected to the chassis and driven in a noise attenuation enclosure. This type of compressors is used in many sectors, where continuous compressed air is required.

MI Series (Belt Driven)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power
	bar (g)	m ³ /min	kW
LKV 4 MI	7 - 10 - 13	0,63 - 0,51 - 0,40	4
LKV 5,5 MI	7 - 10 - 13	0,86 - 0,72 - 0,59	5,5
LKV 7,5 MI	7 - 10 - 13	1,16 - 0,98 - 0,82	7,5
LKV 11 MI	7 - 10 - 13	1,75 - 1,50 - 1,29	11
LKV 15 MI	7 - 10 - 13	2,38 - 2,01 - 1,65	15
LKV 18,5 MI	7 - 10 - 13	3,30 - 2,60 - 1,93	18,5
LKV 22 MI	7 - 10 - 13	3,90 - 3,20 - 2,50	22
LKV 30 MI	7 - 10 - 13	4,98 - 4,24 - 3,66	30
LKV 37 MI	7 - 10 - 13	6,06 - 5,23 - 4,45	37
LKV 45 MI	7 - 10 - 13	7,32 - 6,35 - 5,45	45
LKV 55 MI	7 - 10 - 13	9,18 - 7,82 - 6,51	55
LKV 75 MI	7 - 10 - 13	12,09 - 10,57 - 9,02	75

- FAD: Free Air Delivery
- FAD is measured according to ISO 1217:2009 Annex C
- Lupamat reserves the right to alter the given data without prior notice.



Product Specification:

- Operating Pressure 7/10/13 bars,
- Single staged, oil injected Air Ends,
- Air/oil after-cooler,
- Motorized fan,
- Electric motor, insulation class: F, protection class: IP55, energy efficiency class: IE3
- Driven by V-Belt-Pulley,
- Electric panel is in accordance with the CE-Regulations and Standards,
- Control system equipped with LCD screen indicating the compressor's operation mode, pressure and temperature values, maintenance schedules, replacements schedules for oil, oil filter and separator's filters, replacement/maintenance schedules for the screw block's and motor's ball-bearings, troubles and warnings, parameter values etc.

MIT & MITK series belt driven Receiver Mounted screw compressors

Lupamat's MIT series, screw air compressors equipped with oil lubricated and air cooled systems. These air compressors are designed to meet requirements for space restrictions. The compressors are enclosed in silent canopy and occupy an optimized space envelope. These compressors, operate with air pressures between 7 and 13 bars, are used in most industrial sectors. Models equipped with integrated dryers filters are also available.

MIT Series (Receiver Mounted)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power		Receiver Volume
	bar (g)	m ³ /min	kW	hp	lt
LKV 4 MIT	7 - 10 - 13	0,63 - 0,51 - 0,40	4	5,5	548
LKV 5,5 MIT	7 - 10 - 13	0,86 - 0,72 - 0,59	5,5	7,5	548
LKV 7,5 MIT	7 - 10 - 13	1,16 - 0,98 - 0,82	7,5	10	548
LKV 11 MIT	7 - 10 - 13	1,75 - 1,50 - 1,29	11	15	548
LKV 15 MIT	7 - 10 - 13	2,38 - 2,01 - 1,65	15	20	548

- FAD: Free Air Delivery
- FAD is measured according to ISO 1217:2009 Annex C
- Lupamat reserves the right to alter the given data without prior notice.



MITK Series (Receiver Mounted with Air Dryer)

Compressor Model	Max. Working Pressure	Capacity, FAD*	Motor Power		Receiver Volume	Dryer Capacity
	bar (g)	m ³ /min	kW	hp	lt	m ³ /min
LKV 4 MITK	7 - 10 - 13	0,63 - 0,51 - 0,40	4	5,5	548	0,88 - 0,88 - 0,88
LKV 5,5 MITK	7 - 10 - 13	0,86 - 0,72 - 0,59	5,5	7,5	548	0,88 - 0,88 - 0,88
LKV 7,5 MITK	7 - 10 - 13	1,16 - 0,98 - 0,82	7,5	10	548	1,67 - 1,67 - 0,88
LKV 11 MITK	7 - 10 - 13	1,75 - 1,50 - 1,29	11	15	548	2,58 - 1,67 - 1,67
LKV 15 MITK	7 - 10 - 13	2,38 - 2,01 - 1,65	15	20	548	2,58 - 2,58 - 2,58

- Control panel equipped with Micro-processor,
- Air suction, oil and separator filters of high quality
- Air suction control valve and piston
- Thermostatic Mixing valve, which controls the oil temperature
- Overpressure relief valve, which ensures safety for the compressor and its user,
- Noise insulation cabin,
- Cabin covers, which can be easily opened from every side,
- Performance data is in accordance with ISO 1217 Annex C-2009,
- Conformance Certificate according to the CE-Regulations and Standards



////// OIL FREE Rail System Compressors

	Compressor Models	Cooling System	Working Temp.	Max. Pressure	Free Air Delivery ^{x1}	Drive System	Output Power	Dryer Type	Atmospheric Dew Point	Sizes (WxLxH)	Average Weight
			°C	MPa (bar)							l/min (m³/s)
Scroll	SLBE-221E-S90	Air Cooled	-2 to 40	1.0 (10)	210 (12.6)	Direct Connection	2.2 (3)	Membrane	-40 °C	520x850x300	78
	SLBE-371E-S90	Air Cooled	-2 to 40	1.0 (10)	305 (18.3)	Direct Connection	3.7 (5)	Membrane	-40 °C	520x850x300	95
	SLBE-751F-S90	Air Cooled	-2 to 40	1.0 (10)	605 (36.3)	Direct Connection	7.5 (10)	Membrane	-40 °C	610x1050x485	154
Piston	BFPE-75C-14-S90	Air Cooled	-2 to 40	1.4 (14)	825 (49.5)	Direct Connection	7.5 (10)	Membrane	-40 °C	790x1300x700	283
	BFPE-110C-14-S90	Air Cooled	-2 to 40	1.4 (14)	1200 (72.0)	Direct Connection	11 (15)	Membrane	-40 °C	820x1400x740	330

In rail systems, components of a train include brakes, doors and suspension systems. Without compressed air, a train cannot stop when necessary, open and close its doors correctly or offer soft drives to passengers and cargoes.

Lupamat's oil-free scroll and oil-free piston compressors developed for rail systems, offers high quality clean air, compact size and low noise level with reliability in the most demanding environments.



^{x1} Free air delivery, refers to the average air flow rate converted to atmospheric pressure at 1.0 MPa and is the value before the membrane dryer.

For 60 Hz models please contact us.



Screw Air Compressors

////// Optional equipment

Heat Recovery

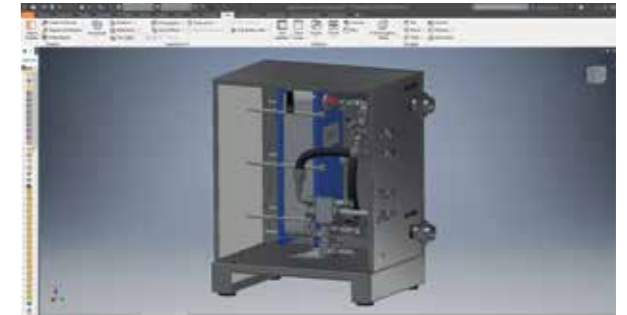
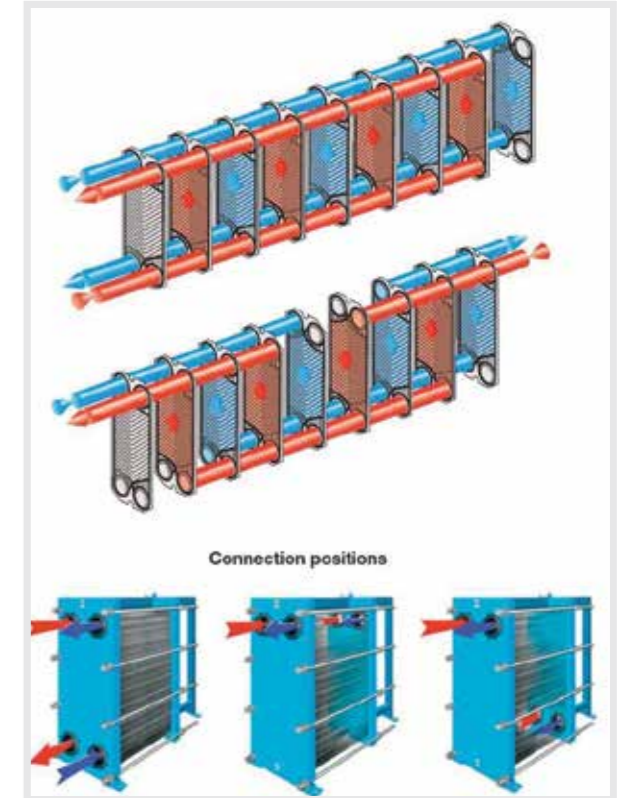
With increasing energy demands worldwide and diminishing energy resources, the production sector is in a constant search for energy saving measures.

Such energy saving can be possible efficiently in the compression process in the production of compressed air.

The electrical energy expended in air production in the compressor, is recovered by 60% with the use of the energy obtained from the hot water from the compressor oil cooling exchanger in various applications in businesses.

Lupamat, in their LKV series compressors, upon the request and order of customers, the hot water from the cooling of the oil process with the cooling exchanger connection integrated into the system within the compressor cabin, can be used in industrial usage, part washing belt, process heating, kitchens of large businesses, chemical and pharmaceuticals industry, central heating connection to heat sections of the business such as warehouse or offices and many other purposes in the industry.

Call us! Our expert sales team will help by providing you with more detailed information, recommendations and offers.



Multi Operation System

In LKV oil or oil free screw air compressors, it is possible to control 6 compressors with a single microprocessor depending on the compressed air needs of the facility. Energy savings or equal aging can be carried out. For example, considering a total of three screw air compressors of 22, 45 and 75 kW 10 bar different air efficiency compressors at a facility can be used alternately according to the parameters to be entered into the micro processor according to the compressed air needs of the facility. With another example; while the daily air needs of the facility are provided mostly with the 45kW compressor, when more compressed air is required, in accordance with the program the 45 kW compressor can switch to idle with the 75kW compressor entering into operation, preventing stoppage in production. The same applies when the pressure produced by the 75 kW compressor is excessive, the 75 kW enters into standby position, and according to the compressed air needs, the 22kW enters into operation. With the compressor entering into operation alternately according to the compressed air needs of the facility, just as production stoppages are presented, effective energy savings are also made.



Oil Heater

In our LKV type Screw air compressors, according to customer demand and order, a thermostatic controlled oil heating resistance keeping the oil in the separator tank at +40 °C is placed to prevent the compressor oil from freezing in extremely cold weather and to prevent damage to the screw block at start up and at the same time to ensure the compressor reaches load quickly. Another advantage of the oil heater is while preventing condensation which can occur in the system in the winter months, it will also protect against corrosion which can occur in the compressor.

Proportional Control Valve

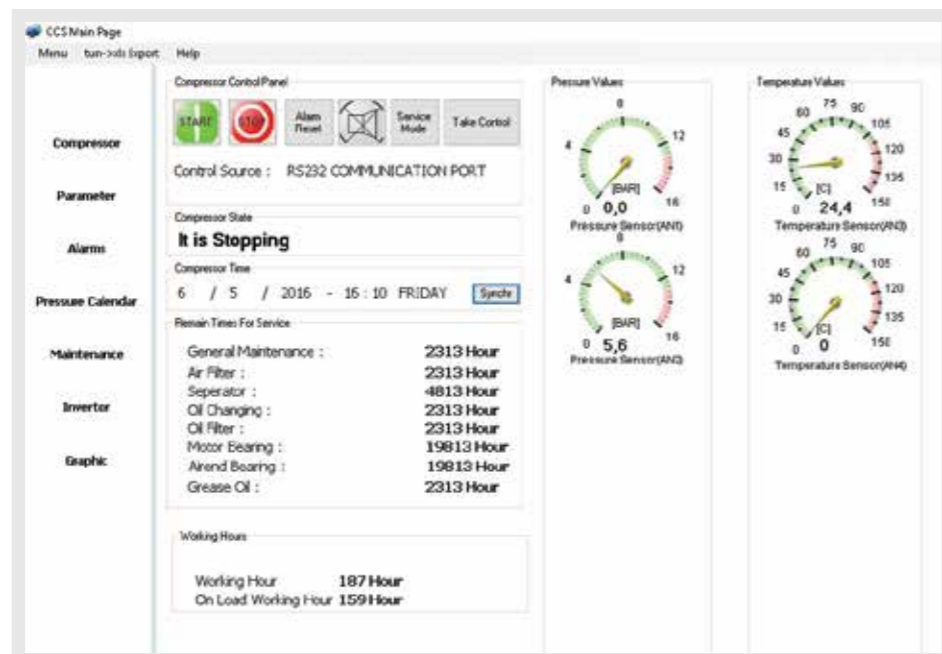
The suction control valve open/close valve operates in either fully open or fully closed position on compressor working at load / idling. The proportional control valve and open/close valve work not only at completely open or completely closed, but operates at different positions depending on the amount of air used. This allows the compressor to work more regularly. In proportional control valve operation, the compressor produces as much air as is consumed, and thus 20% energy savings are made.

At times where the air consumption is very low or none, the compressor works at idle or automatic waiting mode just as in the load/idle working order.



Remote Control

With technological developments today, the capabilities of compressors are increasing. With this optional facility, information such as the pressure, temperature, operating hour, fault, warning and maintenance times of the compressors can be monitored in real time. By monitoring this information, preventing failures that may occur and the provision of better service will be ensured. Lupamat compressor users can have this optional service with the addition of hardware over internet or sim card. This system can also be integrated into previously purchased compressors.



Screw Air Compressors

Optional equipment

Water Cooling

It is possible for all LKV type compressors to be produced as water cooled. In compressors with this optional feature, using air/water and oil/water exchangers the cooling of air and oil is provided. In this system applied by using body / tube type or plate type heat exchangers, the compressors can be far more quiet as there are no fans. Moreover, as the temperature changes of water are lower in comparison with air, water cooled compressors can work more efficiently even in hot, tropical countries. Cooling tower or chiller is used to cool the water. Actuated valves and flow switches are used for the control of water flow in the compressor water circuit. With the integration to the air/water and air/oil production processes, it can become a heat exchanger.



Water Separator

The condensed water occurring in the compressed air pipes with the changes in pressure and temperature move in the compressed air line.

If no measures are taken, these droplets can lead to serious problems such as corrosion in the pneumatic systems, air leaks valve seizures etc. In order to prevent such problems, the compressed air-liquid water must be separated using a water separator.



Automatic Discharge

Starting from the aftercooler of the air compressor, the condensed water in the water separator, air tank, compressed air dryer, line filters, collectors and pipe end points must be removed from the compressed air system with automatic releases. Automatic releases can be applied with ballcocks, time controlled and electronic level control. In the selection of automatic releases, care must be taken for air leaks to be a minimum during release.



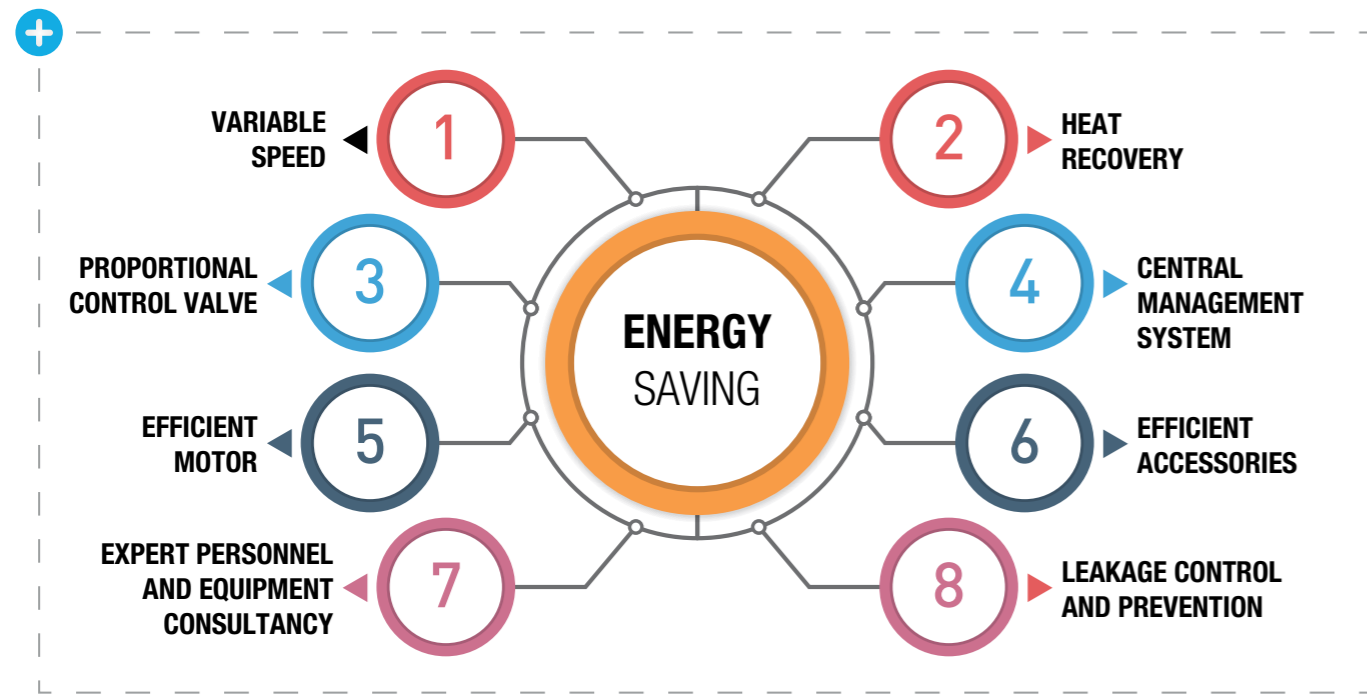
Soft Starter

In the direct start or star-delta start of electrical motors used in all reciprocating, screw compressors and other machines uses 6-7 times overload current. The electrical grid can be affected by this sudden load and this can lead to sudden voltage drops. In order to prevent these changes, a soft starter is used providing a soft start to the electrical motor and at the same time eliminating star-delta connections. With this optional feature, the lifespan of the electric motors is increased and the sudden changes in the line are prevented.



COST EFFECTIVE COMPRESSED AIR PRODUCTION



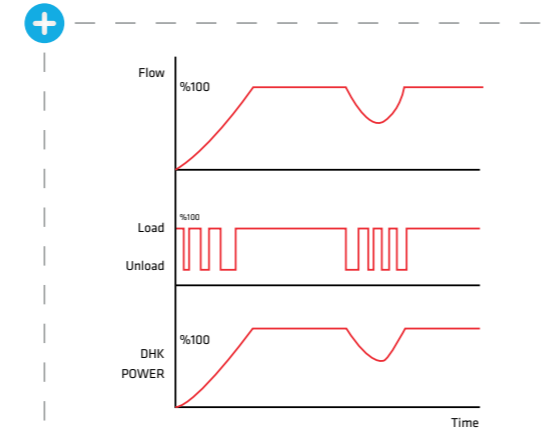
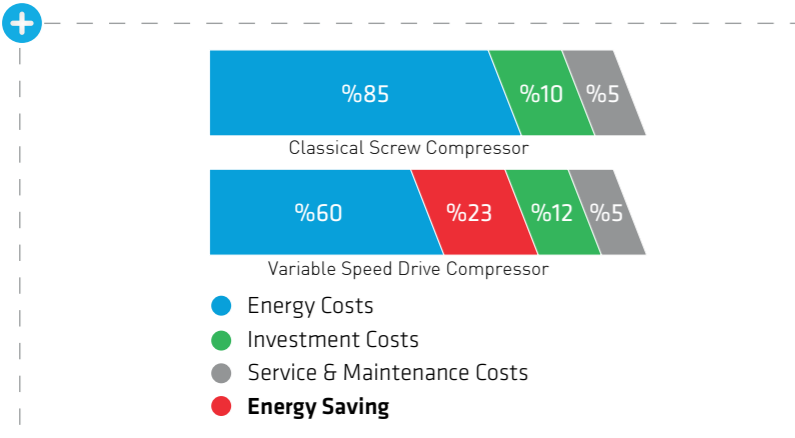


COST EFFECTIVE COMPRESSED AIR PRODUCTION WITH VARIABLE SPEED CONTROL

In the case of classic oil-injected load/idle compressors, the compressor consumes full power in load operation, while it consumes unnecessary energy in idle state. In Lupamat DHK series compressors, the inverter adjusts the motor speed based on the air consumption. Depending on the motor revolution, the power drawn from the network varies.

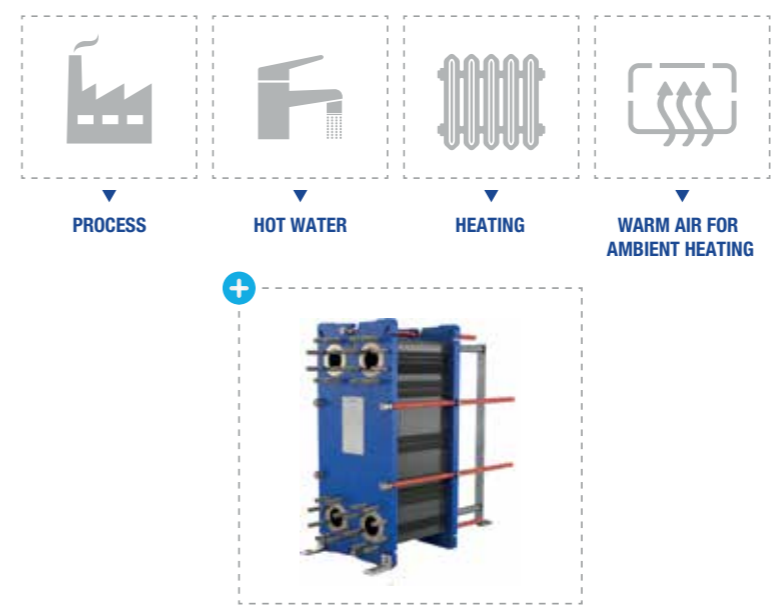
In Lupamat centrifugal fan compressors, the cooling fan saves extra energy by controlling the speed with the inverter.

300 days / year, 12 hours / day, 0.13 € / kWh, 90kW Lupamat DHK compressor with 70% air production specifications provides a profit of 9438 € per year.



HEAT RECOVERY SYSTEM

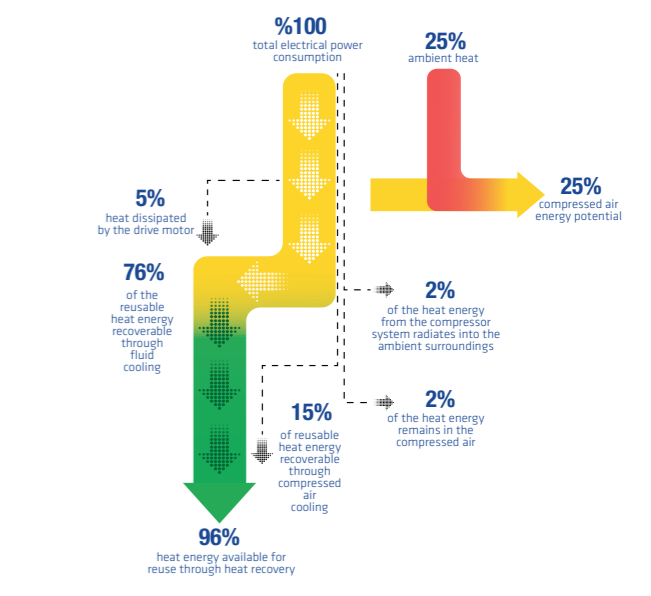
In oil-injected compressors, the heat generated after the air and oil are compressed in the screw and the heat generated by the electric motor can be saved as energy. This heat energy allows the hot air to be directed through the hood to provide ambient heating. Additionally, hot water can be obtained by heat gain exchangers added to the oil and air circuits. The obtained hot water can be used in the process or in the radiator to be used as a ambient heater. Hence, 91% of the disposed heat energy will be recovered.



$$\begin{aligned} \text{Energy Gain (kCAL / year)} &= 0,91 \times \text{Compressor Power (kW)} \times 860 \text{ (kCAL / kWh)} \times \text{Annual Operating Hours (Hour)} \\ &= 0,91 \times 90\text{kW} \times 860\text{kCAL / kWh} \times 3600\text{Hour} \\ &= 253562400 \text{ kCAL/year} \end{aligned}$$

$$\begin{aligned} \text{Financial Gain} &= \text{Energy Gain / (kCAL / kWh)} \times (\text{€ / kWh}) / \text{Heater Efficiency} = \\ &= (253562400 / 860) \times 0,05 / 0,85 = 17343 \text{ €/Year} \end{aligned}$$

Calculated according to Oil Price = 0,75 € / Liter and Heater Efficiency = 85%. Total operating hours is assumed as 3600 hour/year according to 300 days/year, 12 hours/day



THE APPLICATION OF PROPORTIONAL CONTROL VALVE

In load/idle compressors, the suction flap is controlled by a proportional control valve and brought to an intermediate position when the desired pressure is approached.

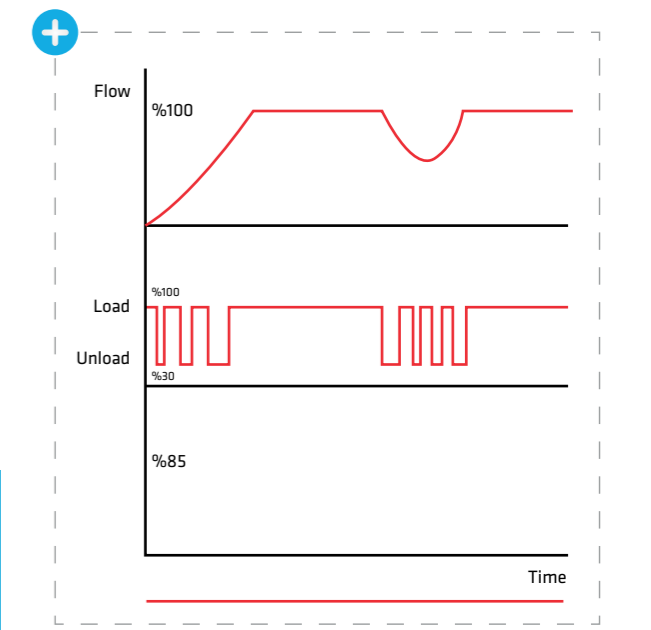
Due to the flap in the intermediate position, the compressor does not go into idle state, therefore unnecessary energy loss in the idle state is reduced. Also, a stable pressure is achieved.

$$\begin{aligned} \text{Savings Calculation} &= \text{Percentage of Consumption} \times \text{Compressor Power (kW)} / \text{Motor Efficiency} \times \text{Yearly Operating Hours (Hour / Year)} \times \text{Proportional Control Valve Efficiency} \\ &= 0,7 \times (90 \text{ kW} / 0,95) \times 3600 \text{ Hours / Year} \times 0,15 = 35810\text{kWh / Year} \end{aligned}$$

$$\begin{aligned} \text{Financial Saving} &= 0,13 \text{ € / kWh} \times 35810\text{kWh / Year} = 4655 \text{ € / Year} \end{aligned}$$

Proportional Control Valve Efficiency was established at 15% at 70% consumption.

Due to the prolonged time spent in load state, the working life of bushings and flaps of pneumatic systems and suction control valve is extended.

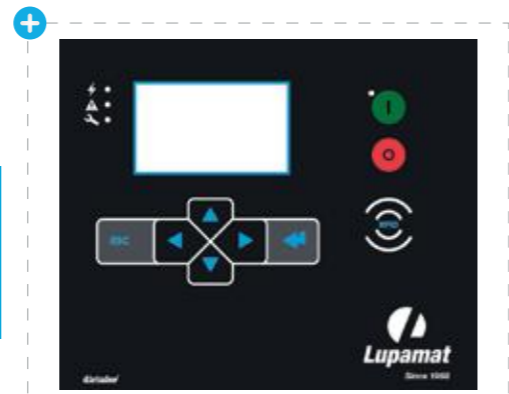
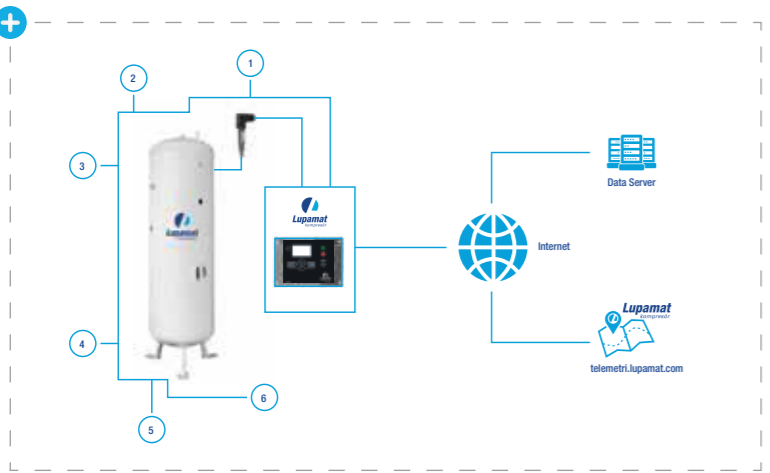


CENTRAL MANAGEMENT SYSTEM

Central management system communicates with Lupamat control panels at multiple compressor stations and compressors are activated according to the consumption need and the compressor age. Therefore, the energy loss caused by needlessly activated compressors is prevented. It keeps the operating hours of compressors with comparable power at an equal. Thus, maintenance planning can be done.

In case of failure, it activates the backup compressor. It manages up to 6 compressors. The telemetry system automatically informs the user in case of malfunction or maintenance by e-mail. It also directly communicates with "Lupamat Telemetry System" and provides the trouble shooting immediately.

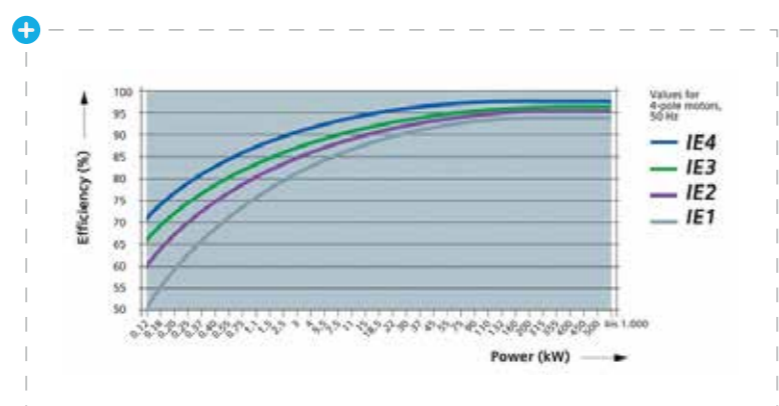
Remote Monitoring System allows easy monitoring of compressor maintenance times, failure records and pressure, temperature information. Via the Remote Monitoring System, predictive maintenance can be carried out, and the blockages at air or separator filters can be detected. Unforeseen downtimes can be prevented by detecting possible problems in advance.



EFFICIENT MOTOR USE

The main engines and fan motors are used in screw compressors. The efficiency of these motors is classified as IE1, IE2, IE3, IE4 according to IEC60034-2-1. These efficiencies vary based on motor brand and type. Lupamat compressors use IE3 / IE4 efficient motors for PLUS and PREMIUM series.

Energy Consumption Calculation = Motor Power (kW) / Motor Efficiency x Yearly Operating Hours (Hour / Year) x Electricity Unit Price (€ / kWh)
3.1% energy gain from using IE4 efficiency class engine instead of IE1.



Class	Efficiency (%)	Annual kWh/Year	Annual € /Year	% Difference
IE4	96,5	335751 kWh/Year	43648 € /Year	3,1
IE3	95,2	340336 kWh/Year	44244 € /Year	1,7
IE2	94,6	342494 kWh/Year	44254 € /Year	1,1
IE1	93,5	346524 kWh/Year	45048 € /Year	0

*The data on the table is calculated for 90kW, 3000 rpm motor. Unit Price of Electricity 0.13 €/kWh.

EFFICIENT ACCESSORY USE

- Coupling** : In belt/pulley mechanisms, efficiency loss due to friction is 1-2%. These losses can be avoided by using couplings.
- Air / Oil Separator** : LUPAMAT brand air / oil separators provide long-term use, lower resistance and lower oil consumption. Inefficiencies caused by pressure loss due to poor quality or clogged separator leads to 3% increased cost.
- Air Filter** : MANN / HUMMEL brand air intake filters ensure long-term operation and lower resistance. The blockage status of the filter can be monitored from the screen via the 50 mbar blockage sensor. A compressor operating with a clogged filter (100 mbar) causes 10% inefficiency in air production.
- Oil Filter** : LUPAMAT brand oil filters provide long-term use and efficient particle filtration. These filters prolong the oil life. The clogging status of the filter can be monitored via the sensor that detects the blockages at the filter. Due to the lack of adequate lubrication in a compressor operating with a clogged oil filter, the temperature will rise and the screw rotors will be damaged. Our filters have a bypass feature as standard

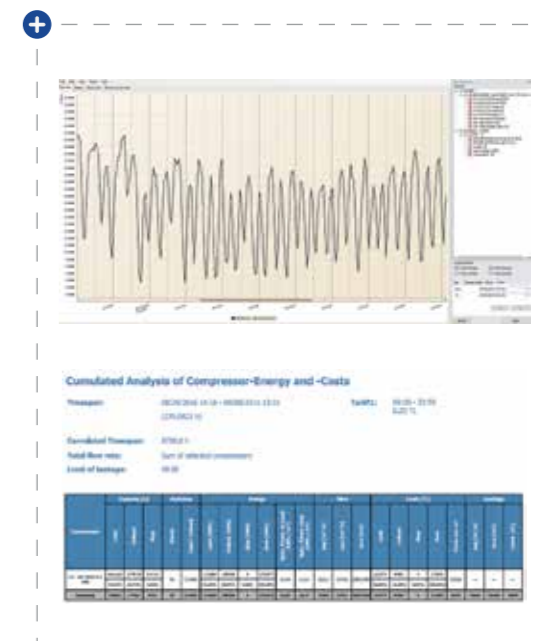
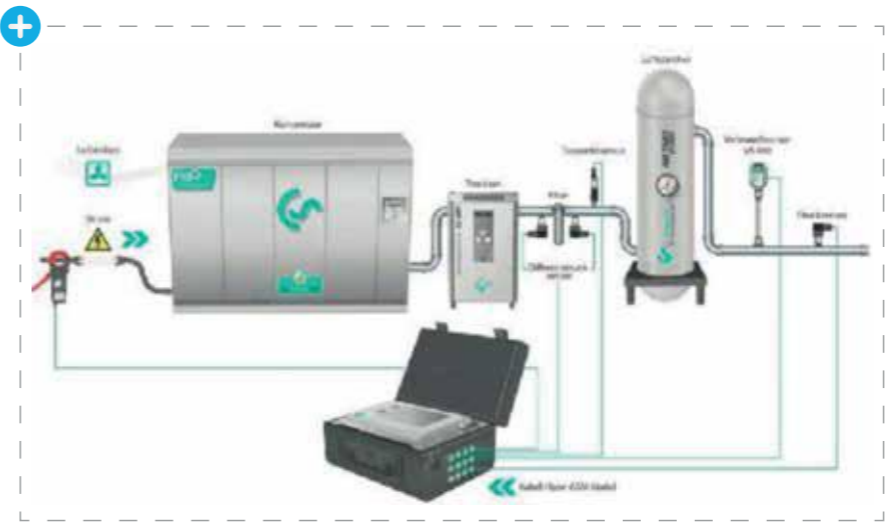
Additional pressure losses due to clogging of the dryer filters are also cause for extra energy consumption. For this reason, it should be preferred that the filters have pollution indicator.

Lupamat Compressor has 2 years standart warranty for all his products. The warranty periods can be extended to 4 years with periodic maintenance agreements.

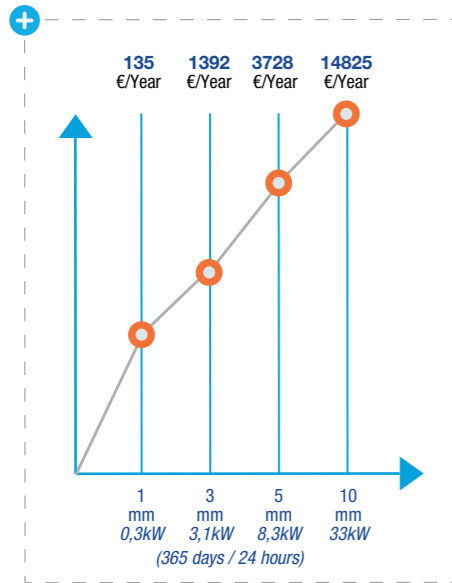
For chosen compressors with wrong pressures (10Bar - 7.5Bar);
= 0.7 x 15,7kW x 3600 Hour/Year = 39564 kWh/Year
Earnings = 39564kWh/Year x 0,13 € / kWh = 5143 €
90kW compressor selection, 70% consumption, Electricity Unit Cost 0,13 € / kWh

EXPERT PERSONNEL CONSULTANCY

Choosing the right compressor according to the facility's changing needs for flow, pressure, air quality and consumption amount. Selection of the appropriate compressor housing and its design, consultancy about the installation of in-house pipelines. Measuring and analyzing the current capacity Air consumption prediction and cost analysis for the future based on this recorded data Real consumption flow rate measurement via thermal mass measurement method.



LEAKAGE CONTROL AND REDUCTION



* 6 bar air pressure Electricity Unit Price: 0,13 €/kWh

Air leaks in the system are an important opportunity to save energy. Air leaks usually occur at safety valves, pipe and hose connections, cut-off valves, and pneumatic tools. One of the following methods can be used for leak detection;

Ultrasonic Detector : Picks up and amplifies the sound of leaks and turns it into an audible sound.

Soap Bubbles : Applied to junctions and valves. This method is suitable for small amounts of leaks.

Perfume Use : A perfume with a strong smell is placed at the air intake of the compressor. Leakage areas will be detectable via the perfume smell they give off.

Branch Isolation : All branches should be examined. The air-consuming elements in the branch are closed. A pressure gauge is placed on the branch. Branch inlet is isolated from the main distribution line via valves etc. If the pressure falls, there is an air leak.



+ Leakage Calculation for Load/Idle Compressor: $(Q \times T) / (T + t)$

T : Operation time on load t : Idle time Q : Compressor capacity
 General Leakage Calculation: $V \times (P1 - P2) / T \times 0,0354$
 V : Total Volume (m³) P1 : Initial pressure (Bar)
 P2 : Pressure after time T (Bar)
 T : Measured duration (Minute)

LUPAMAT COMPRESSOR:	OTHER COMPRESSOR:
AIR END: VMX160 RD: AERZENER	AIR END: VMX110 RD :AERZENER
PRESSURE: 10 BAR	PRESSURE: 10 BAR
POWER CONSUMPTION: 110 KW	POWER CONSUMPTION: 110 KW
FAD:16,7 M3/MIN.	FAD:15,4 M3/MIN.
ROTATION OF AIR END: 2280 RPM	ROTATION OF AIR END: 4085 RPM
SPECIFIC POWER:6,58 KW/M3/MIN.	SPECIFIC POWER: 7,14 KW/M3/MIN.
(shaft power)	
<p>FOR EXAMPLE: IF THE COMPANY WORKS 8000 HOURS IN 1 YEAR AND NEED 15 M3/MIN. AIR CAPACITY $7,14 \times 6,58 \times 15 \times 8000 \times 0,13€ = 8.736 €$ AIR END PRICE DIFFERENCE : 2800€</p>	

Reciprocating Air Compressors



These compressors of low rpm have an effective cooling and lubrication system and are manufactured for industrial use by Lupamat, using top quality and most proper materials to provide superb performance and long use lifespan. With these features, Lupamat provides you efficiency and economy, besides problem free operation.

Lupamat's every part from A to Z are subjected to a stringent quality control system. Before leaving the plant, the factory places each compressor to a 4 hours functional test under unloaded condition and for 4 hours under loaded condition. Air tanks are subjected to hydraulic pressure tests under a pressure of 1,5 times higher than its rated working pressure rate and ensure that the unit can operate at its maximum pressure safely. Lupamat experience since 1968 in this field and our sales and after sales organizations in Turkey and abroad countries make Lupamat a reliable worldwide player in this sector.

Reciprocating Compressors

Compressor Model	Max. Working Pressure	Stroke Capacity	FAD	Stage	Motor Power		Receiver Volume
	bar (g)	lt / min	lt / min		kW	hp	lt
LKD 61-330 A	8	370	240	1	2.2	3	189
LKD 61-550 A	8	900	585	1	5.5	7.5	548
LKD 61-555	8	1454	950	1	7.5	10	548
LKD 62-553 A	15	741	555	2	5.5	7.5	548

* Lupamat reserves the right to alter the given technical data without prior notice.

Product Specification:

- Industrial type and suitable to every type of operating conditions,
- Low rpm, highly efficient and long use life,
- One Staged Reciprocating Air Compressors
- Double Staged Reciprocating Air Compressors
- Two and Three Staged Reciprocating Air Compressors
- Crank shaft in a single piece made of EN GJS-500-7 ductile iron cast material, surface stress-relieved,
- Cylinders and body made of EN GJL-250 cast material, surface stress-relieved,
- Connection rod and Crank shaft are assembled with needle bearing connection,
- Cooling fins ensuring heat transfer surfaces from the cylinders and covers at ideal level,
- Suction and delivery valves, having high efficiency feature,
- Lubrication system with simple, safe and faultless oil splash system,
- Dry type air suction filters of 10 Microns and equipped with paper elements,
- Driven by V-belt and equipped with belt-pulley safeguard covers,
- Air tanks, sample type inspection carried out by the approved institute, marked with 0036 CE symbol and certified with CE certificate,
- Equipped with overpressure relief valve adjusted-sealed according to the compressor's working pressure and a manometer which outer casing is made of stainless material,
- Intercoolers, ensuring effective cooling between the stages,
- Spherical valve at the tank output,
- Electric motor of GAMAK, OMEGA, WEG or WATT brand, insulation class: F, protection class: IP55, energy efficiency class: IE3/IE4
- Solenoid valves of 2/2 ways, ensuring operation under unloaded condition, are used only on LKD 61/555 series. This feature is provided with automatic pressure switch on other series,
- Inter- and after-cooling pipes, ensuring to decrease the working temperature to normal level and to increase the next stage,
- Discharge valves on the collector and tanks for discharging the condensations water.

Reciprocating air compressors with gasoline engine



Reciprocating air compressors with gasoline engine are used as a mobile compressor in the road assistance service vehicles and other service vehicles.

Reciprocating Air Compressors With Gasoline Engine

Compressor Model	Max. Working Pressure	Stroke Capacity	FAD	Stage	Motor Power
	bar (g)	lt / min	lt / min		hp
LKD 62-442 BM	15	496	357	2	9
LKD 62-553A BM	15	741	555	2	13

* Upon customer request, air receivers can be produced with 100 lt, 200 lt, 387 lt capacity.

* Upon customer request, all oil - injected reciprocating compressors can be manufactured with gasoline engine

* Lupamat reserves the right to alter the given technical data without prior notice.



Product Specification:

- Assembled on chassis or air tank,
- Corded and self-starter type gasoline engine of Honda brand,
- One or two staged reciprocating,
- 8 or 15 bars air pressurized,
- Driven by V-Belt, centrifugal clutching, safeguards,
- Pilot valve, ensuring operation under unloaded and loaded conditions.

Oil free Reciprocating Air Compressors

As a result of the cooperation between Japan Anest Iwata company and Lupamat, Lupamat's oil free and air cooled Reciprocating Air Compressors are launched as a new product and especially suitable for the sectors, in which it is necessary to work with oil free air, such as dentistry clinics, hospitals, electronic parts production facilities, food, textile and in many other sectors.

Oil free Reciprocating Air Compressors

Compressor Model	Max. Working Pressure	Stroke Capacity	FAD	Motor Power		Receiver Volume
	bar (g)	lt / min	lt / min	kW	hp	lt

Receiver Mounted Type

LPYI 075/10 D	10	148	72	0.75	1	40
LPYI 15/10 D	10	267	155	1.5	2	75
LPYI 22/10 D	10	437	240	2.2	3	75
LPYI 37/10 D	10	673	365	4	5.5	150
LPYI 55/10 D	10	692	560	5.5	7.5	387
LPYI 55/14 D	14	692	535	5.5	7.5	387
LPYI 75/10 D	10	1115	820	7.5	10	387
LPYI 75/14 D	14	1016	720	7.5	10	387
LPYI 110/10 D	10	1618	1195	11	15	387
LPYI 110/14 D	14	1545	1050	11	15	387

Cabinet Type

LPYI 075/8.5 K	8.5	148	78	0.75	1	
LPYI 15/8.5 K	8.5	267	160	1.5	2	
LPYI 22/8.5 K	8.5	437	255	2.2	3	
LPYI 37/8.5 K	8.5	673	370	4	5.5	
LPYI 55/8.5 K	8.5	692	575	5.5	7.5	
LPYI 55/14 K	14	692	535	5.5	7.5	
LPYI 75/8.5 K	8.5	1115	820	7.5	10	
LPYI 75/14 K	14	1016	720	7.5	10	
LPYI 110/8.5 K	8.5	1618	1135	11	15	
LPYI 110/14 K	14	1545	1050	11	15	

Receiver Mounted Cabinet Type

LPYI 075/8.5 KD	8.5	148	78	0.75	1	75
LPYI 15/8.5 KD	8.5	267	160	1.5	2	75
LPYI 22/8.5 KD	8.5	437	255	2.2	3	150
LPYI 37/8.5 KD	8.5	673	370	4	5.5	150
LPYI 55/8.5 KD	8.5	692	575	5.5	7.5	387
LPYI 55/14 KD	14	692	535	5.5	7.5	387
LPYI 75/8.5 KD	8.5	1115	820	7.5	10	387
LPYI 75/14 KD	14	1016	720	7.5	10	387
LPYI 110/8.5 KD	8.5	1618	1135	11	15	387
LPYI 110/14 KD	14	1545	1050	11	15	387

* Lupamat reserves the right to alter the given technical data without prior notice.

* Air receiver is not included in enclosure type models.



Product Specification:

- ✔ Economical, long use lifespan and not requiring too much maintenance,
- ✔ Pressure options of 8.5, 10 and 14 bars,
- ✔ Engine power available from 0.75 kW up to 11 kW,
- ✔ Protection class: IP55, insulation class: F, triphase asynchronous electric motor,
- ✔ Driven by V-Belt and equipped safeguard covers,
- ✔ Diversified models are suitable for the requirements of every users and equipped with tank top cabin protection or also available without cabin or assembled on chassis and with noise insulated cabin protection,
- ✔ Operates noiseless and vibration free,
- ✔ Manufactured in accordance with the CE-Regulations and Standards for air vessels and certified with Conformance Certificate according to the CE-Regulations and Standards.



Optional

- ✔ Air drier and filters
- ✔ Multi-operation system
- ✔ 220 V 50 Hz (up to 3 kW)



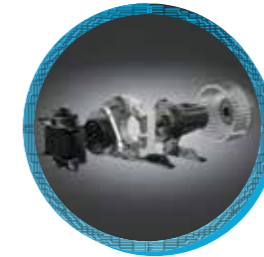
Scroll Compressors

Scroll compressors are developed by the cooperation between Japan Anest Iwata Company and Lupamat and these compressors are 100% oil free, very quiet, efficient and reliable. Scroll compressors with integrated drier supplies dry quality air are ideal for the dentistry and medical sectors. Scroll compressor, which is a product of good and reliable technology, is mounted on a chassis assembled and closed with a single part cover to ensure noise insulation way. The unit is equipped with tank top insulation cabin protection and can be easily operated in laboratories and dentist clinics, as it operates noiseless and vibration free. Compressor's main parts consist of two scrolls which rotate as a pair squeezing the air and generating pressure. The maximum capacity for the scrolls is around $8 \times 808 = 6464$ lt/Min. This is achieved with a multi Scroll configuration mounted in a single enclosure (Engine power 8×7.5 kW = 60 kW). The capacity range is between 808 and 6464 lt/Min.

Oil-free Scroll Compressors

Compressor Model	Motor Power	Pressure	FAD
	Scroll Unit x kW	bar(g)	lt / min
LSL 8K1/07	0.75	8	74
LSL 8K1/15	1.5	8	165
LSL 8K1/55	5.5	8	596
LSL 8K1/75	7.5	8	808
LSL 10K1/15	1.5	10	130
LSL 8K1/22	2.2	8	250
LSL 10K1/22	2.2	10	215
LSL 8K1/37	4	8	410
LSL 10K1/37	4	10	345
LSL 8K2/55	2.2+4	8	670
LSL 10K2/55	2.2+4	10	560
LSL 8K2/75	2x4	8	835
LSL 10K2/75	2x4	10	690
LSL 8K3/110	3x4	8	1255
LSL 10K3/110	3x4	10	1035
LSL 8K4/150	4x4	8	1670
LSL 8K4/300	4x7.5	8	3232
LSL 10K4/150	4x4	10	1380
LSL 7K6/220	6x4	7	2700
LSL 8K6/450	6x7.5	8	4848
LSL 10K6/220	6x4	10	2070
LSL 7K8/300	8x4	7	3600
LSL 8K8/440	8x5.5	8	4768
LSL 8K8/600	8x7.5	8	6464
LSL 10K8/300	8x4	10	2760

* Lupamat reserves the right to alter the given technical data without prior notice.



CLASS **CLASS ZERO OILFREE**



Product Specification:

- ✔ Motor power is available from 0,75 kW up to 7.5 kW,
- ✔ Motor protection of IP 55, insulation class of F and engine of IE3/IE4 efficiency class are used.
- ✔ Max. Working pressure options of 7, 8 and 10 bars are available.
- ✔ Air efficiency 74 lt/Min. – 6464 lt/Min.
- ✔ One staged
- ✔ Air cooled
- ✔ After-cooler
- ✔ Driven by V-Belt and equipped tensioning system
- ✔ Pressure switch

- ✔ Manometer
- ✔ Cabin protection

Optional

- ✔ Air driers and filters
- ✔ Air tank
- ✔ Multi-operation system
- ✔ 270 lt horizontal air tank

Booster Compressors

Lupamat Booster compressors provide efficiency and economy with their suction pressure options of 7.5, 10 and 13 bars and with their air output pressure of 40 bars. With combination connection and with its continuous operation even under the harshest of conditions. These Boosters are positioned to cover PET and food product applications but can cover other applications in other industrial sectors. Its compressor block is Lupamat's own production and it has concentric suction and delivery valves, enabling maximum efficiency and long use lifespan.

Compressor cylinders and crank shaft are cast in ductile iron material in single pieces; therefore these parts provide easy maintenance and repair works. The cast parts are thermal heated, stress relieved and precision machined to very close tolerances, each part is subjected to stringent quality control tests. The unit is prime coated; the pistons are assembled to the cylinders and onto the body. The assembled unit is assembled on the solid chassis. Compressed air is air cooled with a fan mounted on the flywheel. Compressor is driven by V-belt and electric motor. Tensions of the V-belts are easily adjusted with the adjustable tensioning system. Compressor together with its all components is assembled on the chassis. It is protected with a cabin, which is covered with noise isolation material. The enclosure is designed with access doors, which can be opened from every side, to ensure easy accessibility during maintenance and repair works.



Booster Compressors

Compressor Model	Suction Pressure	Outlet Pressure	Rotation	Stroke Capacity	Capacity, FAD*	Motor	Dimensions W x L x H
	bar(g)	bar(g)	rpm	m ³ /min	m ³ /min	kW	mm
LKS 61/330YBH-10	7,5 - 10	40	800	3,14 - 4,06	2,10 - 2,97	11	500 x 1050 x 900
LKS 61/330YBH-13	13	40	800	5,17	4,01	15	500 x 1050 x 900
LKS 61/333YBH-10	7,5 - 10	40	800	4,71 - 6,09	3,15 - 4,46	15	500 x 1050 x 900
LKS 61/333YBH-13	13	40	800	7,75	6,02	18,5	500 x 1050 x 900

* FAD: Free air delivery
* Lupamat reserves the right to alter the given technical data without prior notice.

Product Specification:

- Low rpm.
 - Body, cylinder and crank shaft are compact in a single piece and made of EN GJS 600-3 ductile iron casting. Stress relieved after the casting operation.
 - Equipped with effective cooling and lubrication system.
 - On our booster type reciprocating compressors, there exist spherical valves, equipped with actuators controlling the air flow and located at the air suction and output areas, and discharge valves, ensuring operation under unloaded condition.
 - Connection rod and Crank shaft are assembled with needle bearing connection.
 - Insulation class: F, Protection class: IP55, IE3/IE4 asynchronous electric motor.
 - Electric panel in accordance with CE-Regulations and Standards.
 - Control panel equipped with Micro-processor and Emergency Stop button.
 - Equipped with LCD screen, indicating the compressor's operation mode, pressure and temperature values, maintenance schedules and troubles.
 - Equipped with overpressure safety valve and low pressure switch.
- Booster Air Compressors offer faultless and safe operation besides problem free operation.**



LYPS-Type Oil free Reciprocating Air Compressors (3-8-10-13-40 bars)

Oil free, high pressure, high flow-rate, multi-staged, sliding slots, water cooling, and V-Type reciprocating air compressor.

As a result of long R&D studies, Lupamat developed a first in Turkey. The oil free, high pressure, high flow rate, multi-staged, water cooling, reciprocating air compressor. The materials are in accordance with the CE-Regulations and Standards. In general, this type of compressors is used mostly in PET bottle productions. This design is designed and manufactured not only for PET bottle production, but also to meet the requirements of all of other sectors, where oil free and uninterrupted compressed air is used. These compressors can be custom designed to suit specific customer requirements and applications. This is the only compressor in Turkey which has ISO 8573-1 Class Zero certification approved by international institution. This certification is being given to the compressors which is able to pass tough quality and performance test procedures and producing %100 oil free compressed air.

Oil free Reciprocating Air Compressors

Compressor Model	Max. Working Pressure	Capacity, FAD*	Stage	Motor Power	
	bar (g)			kW	hp
One Stage					
LYPS 132	3	1705	1	132	180
LYPS 160	3	2240	1	160	220
LYPS 200	3	2740	1	200	270
Two Stages					
LYPS 90	8 - 10	871	2	90	125
LYPS 110	8 - 13	1142	2	110	150
LYPS 132	10 - 13	1142	2	132	180
LYPS 160	8 - 10	1414	2	160	220
LYPS 185	13	1414	2	185	250
Three Stages					
LYPS 110	40	587	3	110	150
LYPS 132	40	707	3	132	180
LYPS 160	40	871	3	160	220
LYPS 185	40	995	3	185	250
LYPS 200	40	1142	3	200	270

* FAD: Free Air Delivery
 * FAD is measured according to ISO 1217, Rev.4, Annex C-2009
 * Lupamat reserves the right to alter the given technical data without prior notice.



Product Specification:

- V-Type, 3 staged
- Body and stage cylinders are made of cast iron in EN GJL-250 quality, stress relieved and precisely machined.
- Crank shaft is manufactured in a single piece cast in ductile iron of EN GJS 600-3 quality and stress relieved. Working surfaces of the ball-bearings and connecting rods, after having been machined, were grinded.
- Connecting rods consist of two parts and made of a material cast in ductile iron of EN GJS 600-3 quality, which were machined, after having been stress relieved.
- Connecting rods working surfaces and the crank shaft were lined with a specifically alloyed material.
- All of the stage cylinders are hydro-statically tested, before applying any assembling process.
- Air pipes on the air inlet and outlet lines between the stages are tested and x-rayed after the completion of welding processes and subjected to hydro-static tests.
- Linear movements of 1st and 2nd stage piston shafts are provided with sliding bearing type piston.
- 1st and 2nd stage pistons and sliding bearing type piston were in specifically alloyed aluminum material and machined, after having been stress relieved.
- 1st, 2nd and 3rd stage pistons were manufactured from PTFE material specially designed for Lupamat and are of long use lifespan.
- Suction and delivery valves on all of the stages were specially designed and manufactured for Lupamat.
- Both ends of crank shaft are supported with ball-bearings.
- Although the compressor is producing oil free air, certain mechanical parts (gear case, Crank shaft and bearings) are automatically lubricated by the oil pump, driven by the crank shaft.
- Oil scraper and pressure leak-tightness packages on the 1st and 2nd stages, prevent oil contamination to air from the piston shafts.
- Compressed air outlet from the stage cylinders is passed first through the water cooled exchanger, and after having been cooled there, passed to the other stage.
- After the assembly of compressor block was completed, compressors together with other components are installed on the chassis made of solid NPU profile.
- Our compressor is driven by motor with V-belt and equipped with easy adjustable tensioning system.
- Compressed air outlet from the 1st, 2nd and 3rd stage cylinders are controlled by temperature and pressure sensors.
- Stage cylinders are cooled by the circulation of water delivered from the closed system water cooling tower.
- 40 bars Air tank is manufactured in accordance with the CE regulations and standards and x-rayed, assessed and then subjected to hydro-static pressure test.
- Closed circuit water cooling tower,
- Circulation pump,
- Air dryers and filters,
- Compressor is equipped with Micro-processor specifically designed for Lupamat. Compressor's operation mode, pressure and temperature values of the stage outlets, water temperature and flow rates, maintenance schedules, replacements schedules for parts, troubles and PTC failure etc. can be followed over the LCD screen.
- Our compressors are manufactured in accordance with the CE-Regulations and Standards and certified with CE certificate.
- Class 0 certificated.

LYPS-Type oil free reciprocating air compressors (3-8-10-13-40 bars)



Air Dryer COMPAC Series



Air Dryer Compac Series

Air Dryer Model	Capacity		Motor Power	Connection	Dew Point
	m³/min	cfm	hp		
COMPAC-900	0.90	31.8	1/5	1/2"	+3
COMPAC-1.200	1.20	42.4	1/5	1/2"	+3
COMPAC-1.800	1.80	63.6	1/4	3/4"	+3
COMPAC-2.200	2.20	77.7	1/4	3/4"	+3
COMPAC-2.600	2.60	91.9	3/8	1"	+3
COMPAC-3.100	3.10	109.6	3/8	1"	+3
COMPAC-3.700	3.70	130.8	1/2	1"	+3
COMPAC-5.500	5.50	194.4	3/4	1"	+3
COMPAC-6.500	6.50	229.7	1	1 1/2"	+3
COMPAC-8.500	8.50	300.4	2	2"	+3
COMPAC-11.000	11.00	388.7	2	2"	+3
COMPAC-13.000	13.00	459.4	2.5	2"	+3
COMPAC-17.800	17.80	629.1	3	2"	+3
COMPAC-20.000	20.00	706.8	4	2 1/2"	+3
COMPAC-25.500	25.50	901.2	4	2 1/2"	+3
COMPAC-30.000	30.00	1060.2	5	2 1/2"	+3
COMPAC-35.500	35.50	1254.6	6	3"	+3
COMPAC-40.000	40.00	1413.6	7	3"	+3
COMPAC-45.000	45.00	1590.3	7	3"	+3
COMPAC-50.000	50.00	1767.0	10	DN100	+3
COMPAC-60.000	60.00	2120.4	10	DN100	+3
COMPAC-71.000	71.00	2509.1	12	DN100	+3
COMPAC-80.000	80.00	2827.2	13	DN100	+3
COMPAC-90.000	90.00	3180.6	15	DN100	+3
COMPAC-106.000	106.00	3746.0	18	DN125	+3
COMPAC-120.000	120.00	4240.8	20	DN125	+3
COMPAC-140.000	140.00	4947.6	25	DN125	+3

* Air flow refers to the compressor performances. Working pressure: 7 bar (16 bar max.)
 * Inlet air temperature: 35 °C (45 °C max.)
 * Ambient temperature: 25 °C (40 °C max.)
 * Dew point: 3 °C (-22 atm)

Product Groups:

- Compressed Air Dryers with Coolers
- High Pressure Air Dryers with Coolers
- Compressed Air Filters,
- High Pressure Air Filters,
- Air Dryers with Absorption,
- Intercoolers,
- Oxygen Generators,
- Nitrogen Generators,
- Active Carbon Tower,
- Water Separators,
- Zero Air Loss Discharge Systems.
- Sterilized Filters,
- Air/Air, Air/Water After-coolers

Air Dryer MKE Series



Air Dryers MKE Series

Air Dryer Model	Capacity		Motor Power	Connection	Dew Point
	m³/min	cfm	hp		
MKE-23	0.38	13.4	0.43	1/2"	+3
MKE-38	0.63	22.2	0.43	1/2"	+3
MKE-53	0.88	31	1/2	1/2"	+3
MKE-100	1.67	58.9	1/2	1/2"	+3
MKE-155	2.58	91	0.8	3/4"	+3
MKE-190	3.17	111.9	0.9	3/4"	+3
MKE-210	3.50	123.5	1.1	3/4"	+3
MKE-305	5.08	179.3	1.5	1 1/2"	+3
MKE-375	6.25	220.6	1.75	1 1/2"	+3
MKE-495	8.25	291.2	1.75	1 1/2"	+3
MKE-623	10.38	366.4	1.75	1 1/2"	+3
MKE-930	15.50	547.1	2	2"	+3
MKE-1200	20.00	706	2.5	2"	+3
MKE-1388	23.13	816.5	3.7	3"	+3
MKE-1800	30.00	1059	4.2	3"	+3
MKE-2500	41.67	1471	5.5	3"	+3
MKE-2775	46.25	1632.6	6.2	3"	+3
MKE-3330	55.50	1959.1	7.5	DN100	+3
MKE-3915	65.25	2303.3	8.25	DN100	+3
MKE-5085	84.75	2991.7	10	DN100	+3
MKE-5850	97.50	3441.7	13.5	DN100	+3
MKE-6975	116.25	4103.6	15	DN150	+3
MKE-7875	131.25	4633.1	16	DN150	+3
MKE-9000	150.00	5295	20	DN150	+3
MKE-10500	175.00	6177.5	20	DN200	+3
MKE-12500	208.30	7353	25	DN200	+3

* Max. Working pressure: 16 bar
 * Max. Inlet air temperature: 50 °C
 * Max. Ambient temperature: 45 °C
 * Dew point: 3 °C (-22 atm)

Product Specifications:

- Optimum size, full featured
- Inlet - outlet filters are inside the canopy (up to MKE 2775)
- Environmental friendly-R 134
- High efficient heat transfer
- Production according to European standards
- All filters equipped with automatic drain valve (up to MKE 2775)

Air Tanks

Our compressed air receivers are designed either horizontally or vertically in the capacities of between 500 liters up to 10.000 liters are manufactured in accordance with the EC-Pressure Vessel Directive 2014/68/EC and EN 13445 standard. All compressed air tanks have the declaration of conformity and hydrostatic test certificate.

All tanks can be produced horizontally or vertically between 500 liters and 10.000 liters, up to 40 bar.

Furthermore, we can be made tank production in accordance with your special request. For this, you can contact with us.

The standard tank production is given at the table in this page.



Air Tanks			
Air Tank	Working Pressure	Diameter	Height
lt	bar	mm	mm
500	10	600	2110
	16		
	40		
1000	11	850	2210
	16		
	40		
2000	10	1150	2400
	16		
	40		
3000	11	1400	3300
	16		
	40	1150	3300
4000	11	1400	3300
	16		
5000	11	1600	3200
	16		

Optional accessories:

- Air Tanks have some accessories. These are given together with the air tanks. These are safety valve adjusted to overpressure, manometer, drain valve (optionally, automatic drain valve with solenoid valve and timer), spherical valve for air outlet.

Product Specification:

- In accordance with the CE- regulations and standards
- In 4.000 liters and over air tanks, air outlet connector type is flanged.
- Tank declaration of conformity, hydrostatic test certificate and usage manual



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CONVERSION TABLE

PRESSURE UNITS CONVERT TABLE

	N.m ⁻² = Pa	Bar	Atü	Atm	Torr	Psi
N.m ⁻² = Pa	1	10 ⁻⁵	1,0197.10 ⁻⁵	0,986923.10 ⁻⁵	7,50062.10 ⁻³	1,4504.10 ⁻⁴
Bar	10 ⁵	1	1.019716	0.986923	750.062	14.504
Atü	0,980665.10 ⁵	0.980625	1	0.967841	735.559	14.2235
Atm	1,01325.10 ⁵	1.01325	1.033227	1	760	14.696
Torr	133.3224	1,3332.10 ⁻³	1,3595.10 ⁻³	1,3158.10 ⁻³	1	0.019337
Psi	6894.7	0.0689487	0.070305	0.068046	51.715	1

FREE AIR DELIVERY UNITS CONVERT TABLE

	m ³ /min	cfm	m ³ /h	lt/min	lt/sec
m ³ /min	1	35.315	60	1000	16.67
cfm	0.0283	1	1.699	25.316	0.4719
m ³ /h	0.0167	0.5885	1	16.67	0.277
lt/min	0.001	0.0353	0.06	1	0.0167
lt/sec	0.06	2.118	3.6	60	1

POWER UNITS CONVERT TABLE

	HP	W	Kpm.s ⁻¹	lbf.ft.s ⁻¹	Btu.hr ⁻¹	Kcal.hr ⁻¹
HP	1	746	75	550	2545	632.61
W	1,3405.10 ⁻³	1	0.1019716	0.7373	3.412	0.8603
Kpm.s ⁻¹	0.013333	9.80665	1	7.33315	33.9325	8.4345
lbf.ft.s ⁻¹	1,8182.10 ⁻³	1.3562	0.13637	1	4.6273	1.16682
Btu.hr ⁻¹	3,9293.10 ⁻⁴	0.4146	29,47.10 ⁻³	0.2161	1	0.252139
Kcal.hr ⁻¹	1,5808.10 ⁻³	1.16264	0.11856	0.857	3.966	1

LUPAMAT SCREW COMPRESSORS MODEL GUIDE

BELT DRIVEN RANGE

All series in the BELT DRIVEN RANGE have the following standard features:

- * Spin-on type separator on models between 4 and 30 kW, cyclone type separator on models from 37 kW and higher
- * Spin-on type and cyclone type oil filter
- * Microprocessor control unit
- * Cooling with axial fan

DIRECT DRIVEN RANGE

All series in the DIRECT DRIVEN RANGE have the following standard features:

- * Cyclone type separator (with depth separator elements)
- * Thermostatic mixture valve, minimum pressure valve and oil filter are mounted individually minimizing pressure loss. Oil filter has electrical indicator.
- * Microprocessor control unit with advanced features
- * Cooling with radial fan (starting from 75kW and above) allowing less noise and higher energy efficiency
- * Proportional control valve allowing manual control of energy consumption by adjusting air intake. (except for models with inverter.)

MI SERIES

4 - 75 kw (5.5-100 hp)	
0.40 - 12.09 m ³ /min (14,12 - 426,77 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

MIT SERIES

Receiver Mounted	
4 - 15 kw (5.5 - 20 hp)	
0.40 - 2.38 m ³ /min (14,12 - 84,04 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

MITK SERIES

Receiver Mounted and Integrated Air Dryer	
4 - 15 kw (5.5 - 20 hp)	
0.40 - 2.38 m ³ /min (14,12 - 84,04 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

N/A

with Service Factor Motor

N/A

with Inverter (Variable Speed Drive)

N/A

with Inverter (Variable Speed Drive) and Service Factor Motor

N/A

N/A

N/A

N/A

D PLUS SERIES

22 - 450 kw (30 - 600 hp)	
2.42 - 73.08 m ³ /min (85,42 - 2579,72 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

D PREMIUM SERIES

22 - 315 kw (30 - 420 hp)	
3.03 - 56.09 m ³ /min (106,96 - 1979,97 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

DHK PLUS SERIES

11 - 355 kw (15 - 475 hp)	
1.29 - 61.05 m ³ /min (45,53 - 2155,06 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

DHK PREMIUM SERIES

11 - 450 kw (15 - 600 hp)	
1.40 - 71.49 m ³ /min (49,42 - 2523,6 cfm)	
7 - 10 - 13 bar (101,5 - 145 - 189 psi) (for special requests, please contact us)	

Optional features for both RANGES:

- * Heat Recovery
- * Remote Controlling
- * Water Separator
- * Multi-Operation System
- * Water Cooling
- * Soft Starter

Please feel free to contact us for any additional customization requests.



LUPAMAT MAKİNA SANAYİİ A.Ş.

Factory: İzmir Atatürk Organize Sanayi Bölgesi 10036 Sk. No:3 35620 Çiğli - İZMİR - TURKEY

Phone: +90 232 376 87 10 (pbx) **Fax:** +90 232 328 04 74

İstanbul Showroom: İkitelli O.S.B. Süleyman Demirel Bulv. Heskop İş Modern San. Sit. J Blok No.17 İkitelli - İSTANBUL - TURKEY

Mobile: +90 533 296 06 02 - 533 956 01 45

Bursa Showroom: Alaaddinbey Mah. Ayfatma Cad. No:11 B Blok/3 Nilüfer - BURSA

Mobile: +90 533 956 01 41

www.lupamat.com info@lupamat.com