

MARK



Rotary Screw Compressor
MSC 22 - 30 - 37 - 45 - 55 - 75 kW

TECHNOLOGY YOU CAN TRUST

The MSC rotary screw compressor

High efficiency pumping action

Two asymmetrical profile rotors of equal diameter are mounted on top-quality, long-life bearings from our own factories.

Rotors with top-quality, leak-proof seals and superior tolerance levels ensure:

- GREATER OUTPUT
- HIGH EFFICIENCY
- DURABILITY AND RELIABILITY
- CONSTANT, DURABLE PERFORMANCE

Cooling system

Careful monitoring of air flows inside the unit ensures optimum air discharge temperature. The air flows convey cool air to the main components and maintain optimum temperature levels throughout the unit.

Maintaining a low operating temperature is essential for reliable long-term operation.



Noise-free

Long experience in the industry, precise analysis of air flows inside the unit, use of noise-reduction panels, careful installation of various components, and vibration-free operation all contribute to making our compressor unit a market leader. Thanks to its low levels, the compressor can be used in workplaces and even close to offices.

Safety

An electronic controller manages the operation of the unit and contains an LED display that emits the following signals:

- Flashing light: transitory phase (machine ready for operation, on standby or alarms)
- Constant light: operational phase, alarms and emergencies.

A closer look at the main components

- ① **INTAKE FILTER** built specifically to intercept any solid particles in the surrounding air.
- ② **COMPRESSOR** high efficiency rotary screw compressor for great reliability.
- ③ **ELECTRIC MOTOR** three-phase asynchronous electric motor, class F according to CEI EN 60034-1.
- ④ **BELT DRIVE TRANSMISSION** high performance selfventilating V-belt drive.
- ⑤ **ANTI-VIBRATION MOUNTINGS** motor/compressor unit is mounted on anti-vibration mountings isolating moving parts from rest of machine.
- ⑥ **TUBING** all machine parts are interconnected using flexible tubes or hoses with leak-proof seals that absorb vibrations generated by moving parts.



- ⑦ **OIL FILTER** screw-on cartridge oil filter that is easily removed for maintenance.
- ⑧ **AIR-OIL-SEPARATOR** a high-efficiency multi-stage air-oil separator with low power loss while removing compressor lubricant from compressed air stream.
- ⑨ **MINIMUM PRESSURE VALVE** a non-return valve to ensure correct oil flow from early phases of start-up to idling periods.



- ⑩ **MAIN CONTROL BOARD** housed in shock-resistant, airtight container in 12/10 sheet steel, the main controlboard has first-class reliable electrical components tested under the toughest possible operational conditions.
- ⑪ **ES 3000 CONTROLLER** the ES 3000 controller is an efficient automatic compressor regulation system for continuous monitoring of the entire compressor unit.
- ⑫ **MAIN INTERRUPTER SWITCH** with door interlock and load-triggered emergency release facility.
- ⑬ **AIR-OIL AFTERCOOLER** a package-type aftercooler with large surface area available for heat transfer maintains low discharge air temperature and keeps circulating oil at optimum temperature.
- ⑭ **VENTILATOR** turbo-charged ventilation ensures correct air flow even in the toughest operating conditions.
- ⑮ **NOISE-REDUCTION PANELS** placed at cooling air inlets and outlets absorb noise and reduce any noise filtering.
- ⑯ **SOUND COVER** soundproof compressor cover in sheet steel, painted and covered with sound absorbent and fireproof material, with openings to allow airflow of cooling air both in and out. Air intake opening with easily removable panel filter for prefiltering of ambient air.

Control

ES3000 Electronic Controller

with visual display controls and regulates the compressor, modifies operational parameters and transmits information to users.

The Electronic Controller:

MANAGES

all operations regarding the use of the compressor; loads, unloads, stops and starts;

PERFORMS

the control and regulation of the unit;

ADVISES

you of any anomalies;

STOPS

the compressor in an emergency;

DISPLAYS

the information on the unit's maintenance schedule.

MEMBRANE PUSH-BUTTON

controls for:

- stop and start of the compressor;
- resetting status alerts;
- access to the maintenance menu;
- card test.

CONTROL

Two screen displays show all the operational phases of the unit in simple, clear and user-friendly terms.

Two function keys and two slip keys for control and programming of card.

SIGNALS

LED displays indicate status of unit



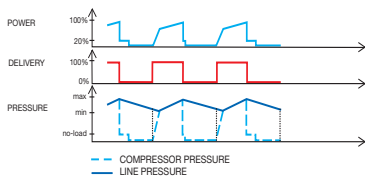
Multicontrol (optional)

A SIMPLE, RELIABLE AND FLEXIBLE way to regulate the MSC series compressors.

It controls air load, idling times and motor restarts, optimizing the work cycle and avoiding any costly and unnecessary energy wastage.

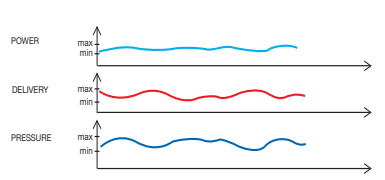


F4 Intelligent On/off



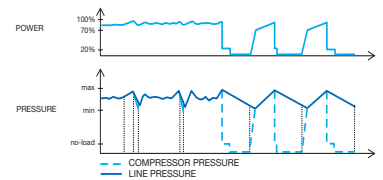
For medium-low air consumption, with long idling periods. Reduced idling time saves energy.

F5 Modulation



For air consumption dose to the compressor's base load, with brief idling periods. Only consumes the energy needed to produce the air.

F6 Automatic



For variable long-term consumption; regulation automatically follows system F4 and/or F5 according to tipe of consumption.

MSC for QUALITY

Performance

We only use high-quality components that have been tested over many years, we attain a high level of production efficiency on our assembly lines and we have a functional layout and a low number of components subject to wear and tear. These are the factors behind our units' superior performance.

Reliability

The care we put into our design, construction and choice of components combined with certification for our own Quality Assurance and Environmental Management Systems are our guarantee for highly reliable products.

Maintenance

All our components, especially those subject to scheduled maintenance, are placed in easily accessible locations for any maintenance operations.



According to

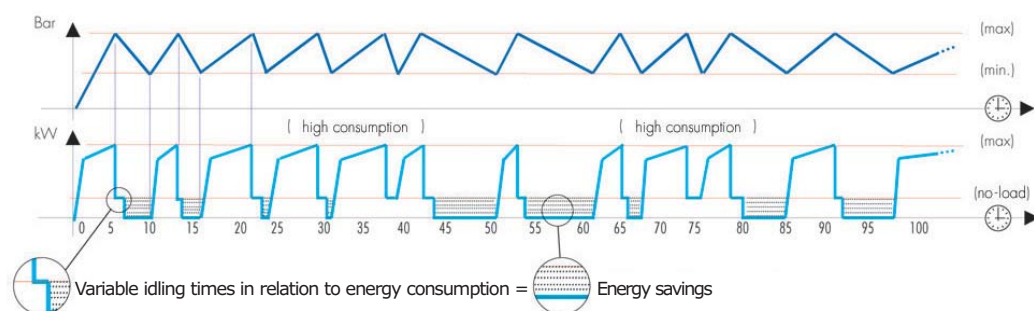


Ecology

Low noise levels, high performance and an intelligent control system make these units market leaders in environmental protection.

Energy Savings







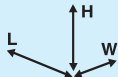

Regulation with the ES3000 controller and its "intelligent cut-in/cut-out function" allows outstanding electrical energy savings during idling by automatically calculating the minimum idling time cycle by cycle, based on consumption and the maximum number of programmed starts per hour.



When there is no or very little need for air, the compressor goes into idle mode as soon as it reaches maximum pressure. Energy savings are obtained by stopping the compressor after the shortest idling time possible, which means that the compressor:

- does not exceed the maximum number of programmed starts per hour
- will start immediately when air is needed.

TECHNICAL DATA (IN ACCORDANCE WITH ISO 1217 CAGI PNEUROP PN8NTC2)

Type														
	bar	psi	HP	kW	m ³ /11'	m ³ /h	cfm	dB (A)	V/Hz/Ph	gas	L mm	W mm	H mm	Kg
MSC 22/8	8	116	30	22	3,930	236	139	68	400/50/3	1 1/4"	1100	1390	1545	680
MSC 22/10	10	145	30	22	3,270	196	116	68	400/50/3	1 1/4"	1100	1390	1545	680
MSC 22/13	13	188	30	22	2,470	148	87	68	400/50/3	1 1/4"	1100	1390	1545	680
MSC 30/8	8	116	40	30	4,900	294	173	69	400/50/3	1 1/4"	1100	1390	1545	695
MSC 30/10	10	145	40	30	4,310	259	152	69	400/50/3	1 1/4"	1100	1390	1545	695
MSC 30/13	13	188	40	30	3,460	208	122	69	400/50/3	1 1/4"	1100	1390	1545	695
MSC 37/8	8	116	50	37	6,080	365	215	70	400/50/3	1 1/4"	1100	1390	1545	715
MSC 37/10	10	145	50	37	5,540	332	196	70	400/50/3	1 1/4"	1100	1390	1545	715
MSC 37/13	13	188	50	37	4,250	255	150	70	400/50/3	1 1/4"	1100	1390	1545	715
MSC 45/8	8	116	60	45	7,790	467	275	71	400/50/3	1 1/2"	1100	1390	1805	790
MSC 45/10	10	145	60	45	6,810	409	240	71	400/50/3	1 1/2"	1100	1390	1805	790
MSC 45/13	13	188	60	45	5,710	343	202	71	400/50/3	1 1/2"	1100	1390	1805	790
MSC 55/8	8	116	75	55	8,630	518	305	71	400/50/3	1 1/2"	1100	1640	1805	810
MSC 55/10	10	145	75	55	7,800	468	275	71	400/50/3	1 1/2"	1100	1640	1805	810
MSC 55/13	13	188	75	55	6,420	385	227	71	400/50/3	1 1/2"	1100	1640	1805	810
MSC 75/8	8	116	100	75	11,340	680	400	74	400/50/3	1 1/2"	1100	2010	1790	980
MSC 75/10	10	145	100	75	10,500	630	371	73	400/50/3	1 1/2"	1100	2010	1790	980
MSC 75/13	13	188	100	75	8,715	523	308	73	400/50/3	1 1/2"	1100	2010	1790	980

MARK has a policy of continuous product improvement. We reserve the right to change specifications and product design without prior notice.

Scheduled Maintenance

with original Mark spare parts and lubricating oil:



A breakdown in your compressed-air system can lead to costly loss of production. The best way to avoid this type of problem is to keep spare and consumable parts on hand.

Mark has devised a way for you to have the equipment need on hand constantly with THREE emergency kits to suit all needs:

- 2000 hours KIT: oil filter and air filter
- 4000 hours KIT: 2000 hours KIT + separator filter and prefilter
- 8000 hours KIT: 4000 hours KIT + minimum pressure valve, thermal valve kit and suction screen kit

Contact our Customer Support Centre at any time, whatever your needs.

