TOPP TRYKLUFT A/S

MARK

VARIABLE-SPEED COMPRESSORS

IVR from 30 to 160 kW

TECHNOLOGY YOU CAN TRUST

www.topptrykluft.dk

GB

IVR for Environment

Our extensive experience of compressed air has taught us that, regardless of a compressor's size:

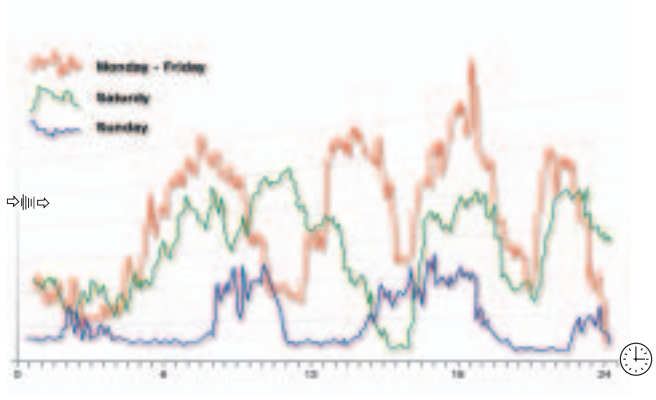
- the amount of compressed air needed varies according to consumption peaks,
- the greater the variation in compressed air consumption, the more energy is consumed per liter of air produced,
- most installations require two or three compressors of different sizes.

Variations in the amount of compressed air needed cause constant loading and emptying of the compressors or choked intake.

If a compressor operates empty, energy is wasted while no work is performed.

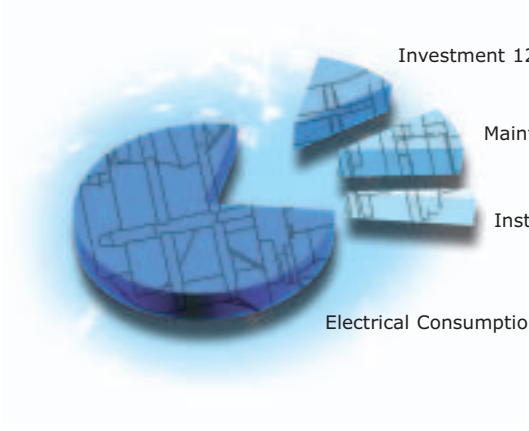
If a compressor operates with choked intake, it consumes more energy than would be required to produce the same amount of compressed air.

The amount of compressed air needed during a given day or week varies depending on production.



These variations may be more or less intense. The more intense they are, the more energy is consumed when the compressor operates empty.

Only producing the air needed for the production cycle is an intelligent way to cut consumption and power costs.



It is well-known that in 3-5 years of operation, over three quarters of the overall cost of a compressor is ascribable to electricity consumption.
REDUCING electricity consumption means:

- Lower power costs = SAVINGS
- Lower power consumption = ENVIRONMENTAL FRIENDLINESS

Energy saving is the best possible investment for improved future performance.

IVR high Technology

from 0,300 to 13,338 m^3/min. for every requirement

Variable-speed compressors with Inverters from MARK operate optimally under any load conditions and ensure maximum capacity with minimum consumption.

All components are reliable, efficient and time-proven, and are the standard components used in traditional machines.

The inverter is made by the world's leading brand, and is built into the machine.

Compressor with asymmetric screws. High efficiency, high yield and low noise level.

Main electric motor enclosed, air-cooled with external ventilation and Class F insulation.

Triple-action air/oil separator guarantees compressed air delivery with lower residual-oil content.

Compact, highly efficient air/air and air/oil coolers maintain optimum oil temperature and keep delivery air cool.

Control panel with state-of-the-art control system, microprocessor diagnostics and alphanumerical display for safe, efficient machine management.
All data displayed in standardized symbols

Built-in frequency converter for compressor speed variation and ramped motor startup, including standard RFI filters.

Sound-proofing fairing in wide, painted steel panels, removable for easy access to all internal components.

Sturdy steel base set-up for easy handling.

IVR Range 30 - 160 kW

30 - 37 - 45 - 55 kW

55 - 75 - 90 kW

160 kW

Easy maintenance

Particular care has been taken to simplify all maintenance operations:

- wide, easily removable side doors or panels ensure easy access to all internal components
- all components can be removed without special equipment
- scheduled signaling of all maintenance required.

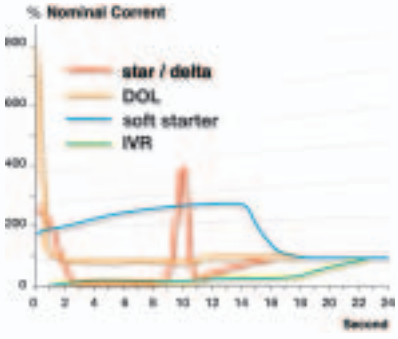
Easy to use

The compressor is controlled by a safe, state-of-the-art monitoring system proven through years of use in traditional machines:

- automatically manages the multiple running phases, such as startup, adjustment, compressor control and shutoff
- stops the compressor in the event of breakdowns
- All messages are digital, displayed simply and clearly, and directly readable without special codes.

Soft startup

Traditional startup results in high current peaks.



Startup with the inverter:

- does NOT cause current peaks
- does NOT result in overheating to an extent that limits the number of startups
- does NOT cause mechanical stress to coupling elements
- EXTENDS the life of bearings, belts and transmission joints.

Integrated INVERTER

A highly efficient frequency converter with low harmonic distortion ensures excellent output for all compressor operations.

A standard product compatible with our compressors.

Conforms to current standards of electromagnetic compatibility.

Built into the machine in a well-aired housing.

IVR Savings...

...with the variable-speed compressor from MARK

Principle

Variations in the amount of compressed air required cause corresponding variations in line pressure.

Pressure variation is detected by the compressor delivery pressure sensor, which processes the signal and transmits it to the control system.

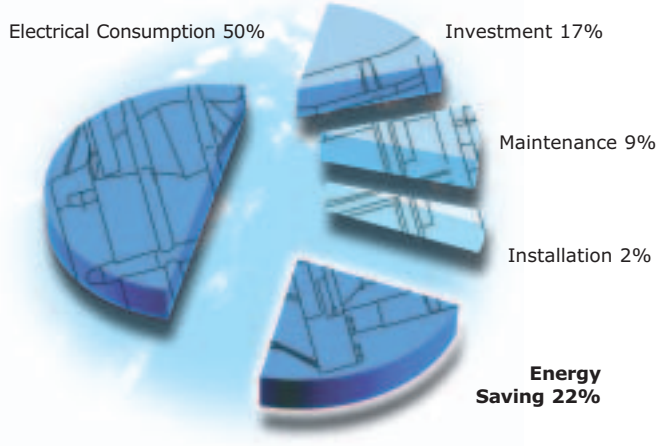
The machine varies motor speed and keeps line pressure constant, adjusting automatically according to consumption. This means it only supplies the amount of compressed air required by the system.

The motor speed is regulated by varying the electric motor feed frequency.

Every re-start of the electric motor using the INVERTER is ramped, with limited current. This means an unlimited number of startups can be performed, unlike traditional compressors with direct or ASD startup.

Result

The IVR screw compressor, coupled to a system that electronically adjusts the motor's rotation speed, ONLY CONSUMES the energy needed to produce the compressed air required by the system. This saves over 20% in approximately 20,000 hours of operation compared to traditional equal power.



Advantages

- **LOWER RUNNING COST**
- Only uses energy for air production.
- No energy wasted on partial loading

- **CONSTANT PRESSURE**
- Lower energy consumption.
- Higher process stability.

- **LOWER MAXIMUM PRESSURE**
- Lower energy consumption for lowest maximum pressure.
- Reduced compressed air leaks.

- **CONSTANT POWER FACTOR (Cos φ)**
- High value, even with reduced loads.
- No need for rephasing.
- No penalties imposed by power suppliers.

- **RAMPED MOTOR-STARTUP**
- No current peaks.
- Lower energy consumption.
- Less stress on coupling elements.
- Improved mechanical reliability.
- Unlimited startups.
- No penalties imposed by power suppliers.

- **STANDARD COMPONENTS**
- Reliable, standard motors and inverter.
- Customer service available everywhere.

- **EASY MAINTENANCE**
- Easy component access.
- Operation parameter monitoring.

- **LONGER MAINTENANCE INTERVALS**

- **ELECTROMAGNETIC COMPATIBILITY**

- **SILENT RUNNING**

- **MARK GUARANTEE**

- **PROFITABLE IN THE LONG RUN**

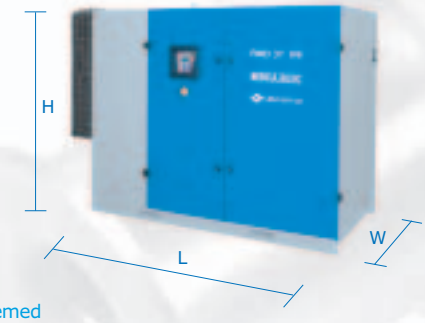
In response to these needs, MARK offers its own range of compressors with **INVERTER** and its own technical experts to analyze your requirements.

T O P P T R Y K L U F T A / S

TECHNICAL DATA (ACCORDING TO ISO 1217 AND CAGI PNEUROP PN8NTC2)

Type	bar	psi	HP	kW	max m³/1′	max m³/h	max cfm	dB (A)	V/Hz/Ph	gas	L	W	H	Kg
RMD 30 IVR ②	7	100	40	30	5,517 1,333	331 80	195 47	65	400/50/3	1½″	1820	985	1760	945
	9,5	136	40	30	4,717 1,317	283 79	167 46							
RMD 37 IVR ②	7	100	50	37	6,633 1,350	398 81	234 48	66	400/50/3	1½″	1820	985	1760	935
	9,5	136	50	37	5,783 1,333	347 80	204 47							
RMD 45 IVR ②	7	100	60	45	7,933 1,417	467 85	280 50	67	400/50/3	1½″	1.820	985	1760	1025
	9,5	136	60	45	6,933 1,400	416 84	245 49							
RMD 55 IVR ②	7	100	75	55	9,700 1,400	582 84	343 49	68	400/50/3	1½″	1820	985	1760	1055
	9,5	136	75	55	8,633 1,383	518 83	305 49							
RME 55 IVR	7	100	75	55	10,710 2,313	643 139	378 82	65	400/50/3	2″	2160	1100	1600	1480
	9,5	136	75	55	9,173 2,225	551 134	324 76							
RME 75 IVR	7	100	100	75	14,667 2,313	880 139	518 82	66	400/50/3	2″	2160	1100	1600	1560
	9,5	136	100	75	12,763 2,225	766 134	451 76							
RME 90 IVR	7	100	125	90	16,005 2,630	960 158	566 93	67	400/50/3	2″	2160	1100	1600	1630
	9,5	136	125	90	14,076 3,805	845 228	498 134							
RMD 160 VR	7	100	220	160	29,330 4,860	1760 281	1036 165	77	400/50/3	DN80	3007	1600	2111	4000
	9,5	136	220	160	25,480 4,700	1529 282	900 166							

① Available version tank mounted with or without dryer and filters
- Sizes and weights without packaging



Our products are under constant development. We therefore reserve the right to make any product changes deemed

According to

SOLD AT

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