Heat Recovery System

for EG Series Oil Lubricated Screw Air Compressors

ELGi
Always Better.

CONSERVE™
ENERGY EFFICIENCY

CIN: L29120TZ1960PLC000351

www.elgi.com

11 - 250 kW / 15 - 300 HP

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ELGi, established in 1960, designs and manufactures a wide range of air compressors. The company has gained its reputation for design and manufacture of screw compressors through strategic partnerships and continuous research and development. Over the years, it has emerged as a multi-product, multi-market enterprise providing total compressed air solutions in all segments. ELGi's design capabilities translated into a wide range of products ranging from oil-lubricated and oil-free rotary screw compressors, reciprocating compressors and centrifugal compressors. ELGi has its own manufacturing operations in India, Italy and USA with subsidiaries in Australia, Brazil, UAE and Indonesia. The company is fast expanding its global footprint attracting distributors and customers with its latest generation products.

Screw Compressor elements are manufactured in-house using state-of-the-art machining centres for rotor grinding and machining castings of various sizes. ELGi's own η-V profile rotors ensure energy-efficient compressed air supply for all demanding applications. ELGi is one of the few companies capable of manufacturing wide range of airends and compressor packages in the world. ELGi's patent portfolio is a testament to the company's continuous research and innovation capability

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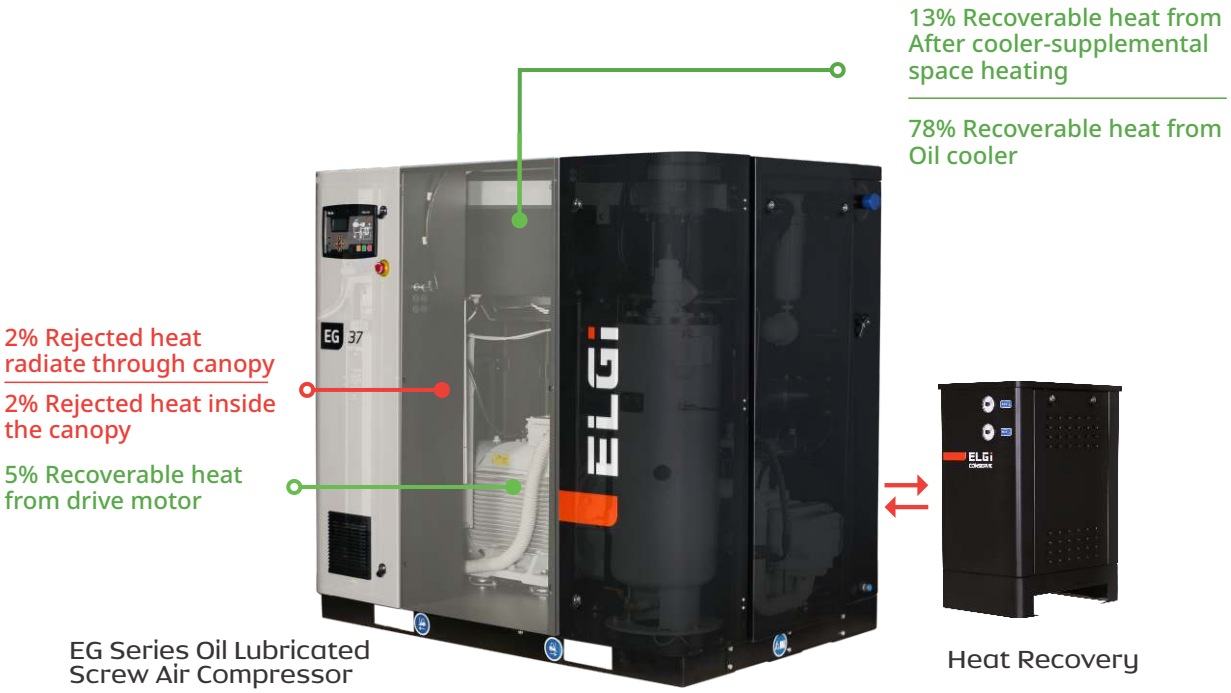
Heat Recovery (HR)

It is a surprising fact that 100% of the electrical power (energy) is converted to heat energy during the Compression process in an Air compressor & all the heat energy goes as a waste if not used judicially.

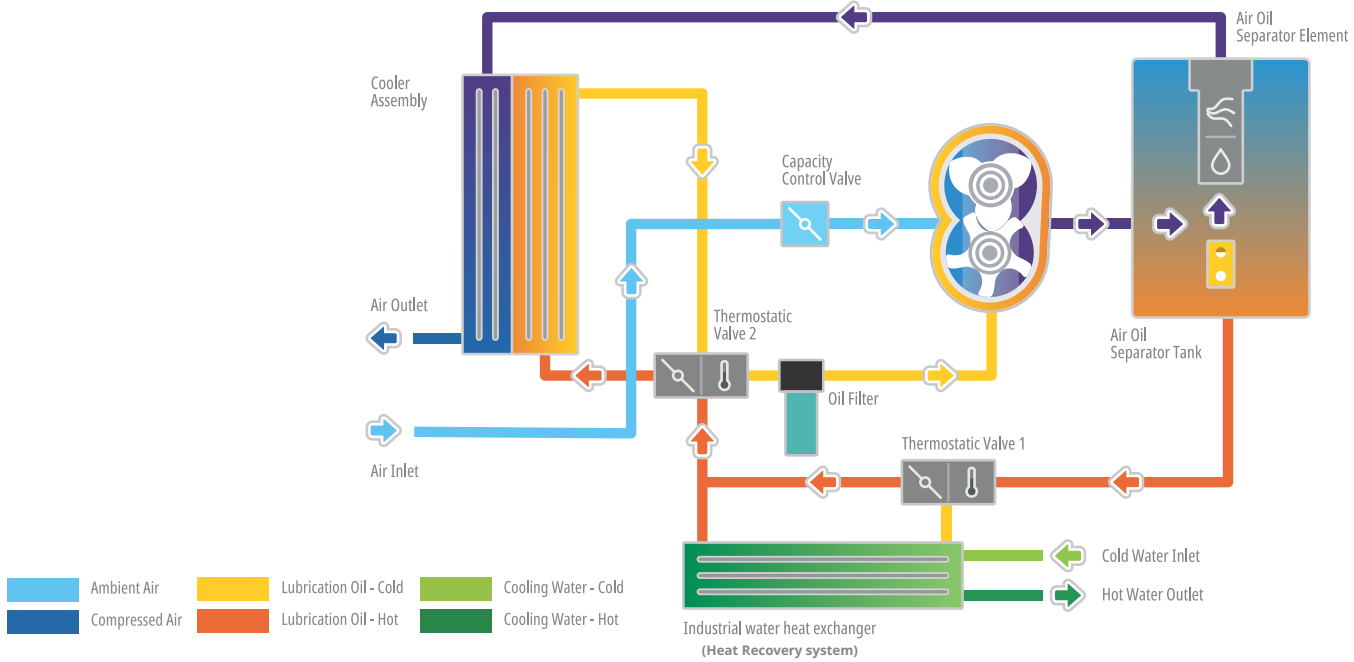
Keeping in mind the effects of Global warming in the present environment. ELGi has come up with a system where 78% of the waste heat generated by the compressor can be utilised for heating water. This in turn eliminates the necessity to go for additional equipment to heat water, thereby reducing the CO2 emission to a large extend.

Recoverable Heat - Potential



In a typical compression system, the theoretical recoverable heat is 96% of the overall electrical energy consumption. It consists of heat dissipated in the oil cooler (78%), the after cooler (13%) and the heat radiated from the drive Motor (5%). The heat dissipated by oil cooler can be used for heating water and heat dissipated by after cooler and drive motor for supplemental space heating. The remaining 4% heat cannot be recovered since 2% radiates through the canopy and the other 2% vents inside the canopy.

Heat Recovery Unit - Schematic Diagram



Technical Specification

Model	Suitable compressor model	Rated Motor Power		Maximum available		Heated water volume				Dimension		Weight	
				Heat capacity		ΔT25°C	ΔT55°C	ΔT45°F	ΔT99°F	LxBxH			
		kW	HP	kW	MJ/h	lpm	lpm	gpm	gpm	mm	inch	kg	lb
HR 11	EG 11	11	15	10	37.8	6.1	2.8	1.6	0.7	600x400x850	23.6x15.7x33.5	53	117
HR 15	EG 15	15	20	14	51.5	8.3	3.8	2.2	1.0	600x400x850	23.6x15.7x33.5	53	117
HR 18	EG 18	18	25	17	61.2	9.9	4.5	2.6	1.2	600x400x850	23.6x15.7x33.5	55	121
HR 22	EG 22	22	30	20	72.0	11.6	5.3	3.1	1.4	600x400x850	23.6x15.7x33.5	55	121
HR 30	EG 30	30	40	27	98.6	15.8	7.2	4.2	1.9	600x400x850	23.6x15.7x33.5	56	123
HR 37	EG 37	37	50	34	123.1	19.8	9.0	5.2	2.4	600x400x850	23.6x15.7x33.5	56	123
HR 45	EG 45	45	60	42	151.2	24.3	11.1	6.4	2.9	600x400x850	23.6x15.7x33.5	59	130
HR 55	EG 55	55	75	52	187.2	30.0	13.5	7.9	3.6	600x400x850	23.6x15.7x33.5	60	132
HR 75	EG 75	75	100	70	252.0	40.5	18.5	10.7	4.9	712x400x850	28x15.7x33.5	75	165
HR 90	EG 90	90	125	79	284.4	45.5	21.0	12.0	5.5	712x400x850	28x15.7x33.5	75	165
HR 110	EG 110	110	150	95	342.0	55.0	25.0	14.5	6.6	800x520x800	33.5x20.5x33.5	110	242
HR 132	EG 132	132	175	114	410.0	66.0	30.0	17.4	7.9	800x520x800	33.5x20.5x33.5	115	253
HR 160	EG 160	160	200	140	504.0	81.0	37.0	21.4	9.8	800x520x800	33.5x20.5x33.5	125	276
HR 200	EG 200	200	250	177	637.2	103.1	46.6	27.2	12.3	860x580x1067	33.9x22.8x42	193	425
HR 250	EG 250	250	300	225	810.0	131.1	59.3	34.6	15.7	860x580x1067	33.9x22.8x42	210	463

Easy to install, plug and play

Note: Due to continuous engineering improvements, the specifications are subject to change without prior notice.

$$\text{Savings potential on fuel} = \frac{\text{Usable energy x operating hours x heating fuel price}}{\text{calorific value of fuel x heating efficiency}}$$

$$\text{Savings potential on energy} = \frac{\text{Usable energy x operating hours x energy cost}}{\text{Heating efficiency}}$$

DEMING PRIZE
2019

ELGi is the first, globally established industrial air compressor manufacturer to have won the Deming Prize*

*In over six decades

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