



# Heat Recovery System

for EG Series Screw Air Compressors

# ELGi

Always Better.



CIN: L29120TZ1960PLC000351

[www.elgi.com](http://www.elgi.com)

11 - 250 kW / 15 - 300 HP

# A Tradition of reliability



Elgi Equipments Limited was established in 1960 as an air compressor and garage equipment manufacturing company. Over the years, the company has grown its product portfolio and aligned its offering to changing market requirements. Today, ELGi is a multi-product, multi-market enterprise that provides total compressed air solutions in all segments.

At ELGi, we are changing the way you look at the compressed air systems. It's no longer just about delivering air. It's about delivering UPTIME. From the way we design, manufacture and support our air compressors, every aspect of our business is built on keeping yours running: smoothly, efficiently and profitably.



# Innovative technology

ELGi is known for providing custom-engineered solutions to meet the compressed air needs. The company collaborates with clients to understand their changing needs and designs solutions accordingly. Long-term partnering has been our key differentiating factor.

ELGi's Screw compression elements are manufactured in-house using state-of-the-art machining centers for rotor grinding and machining intrinsic castings of various sizes. Our own eta-V profile rotors delivers energy efficient compressed air for all demanding applications.

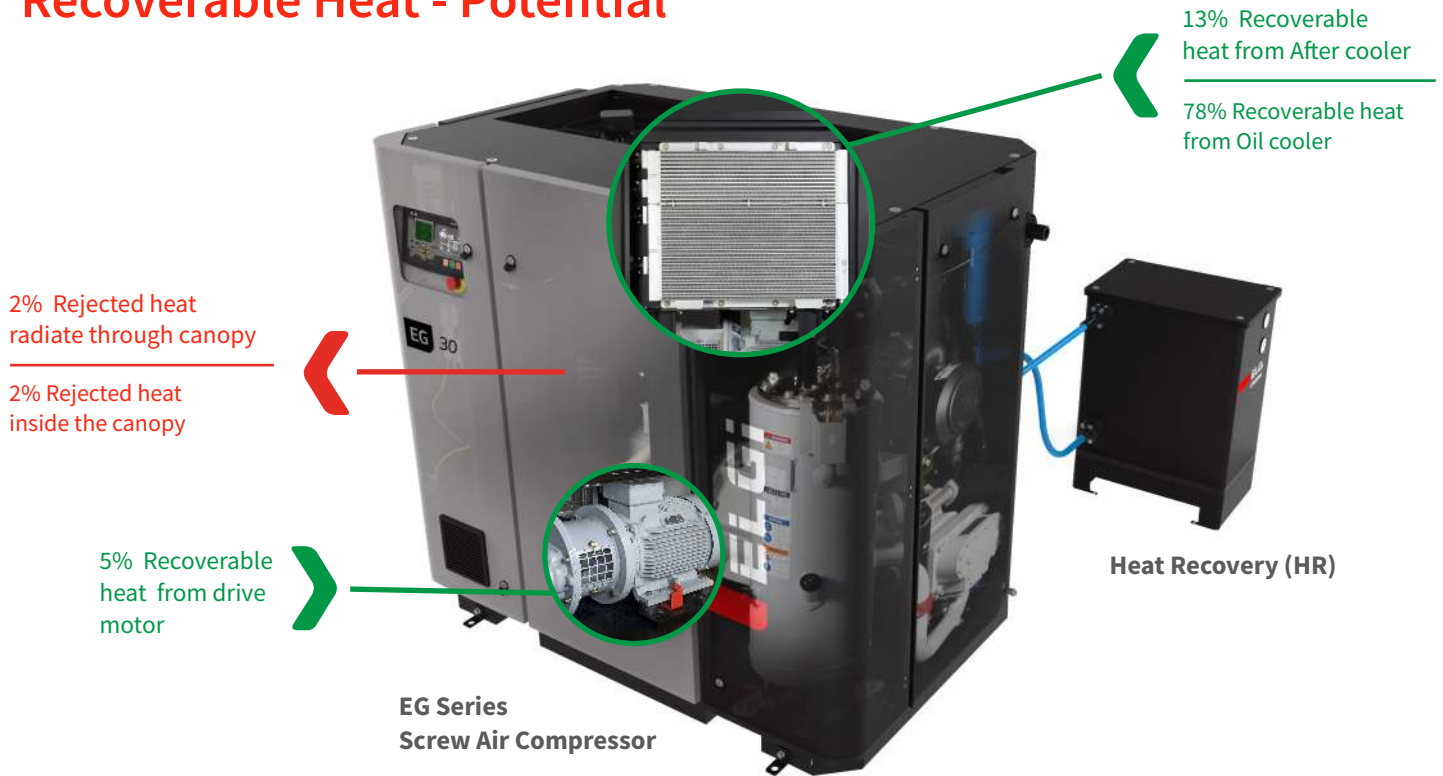


# Heat Recovery (HR)

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 judiciously.

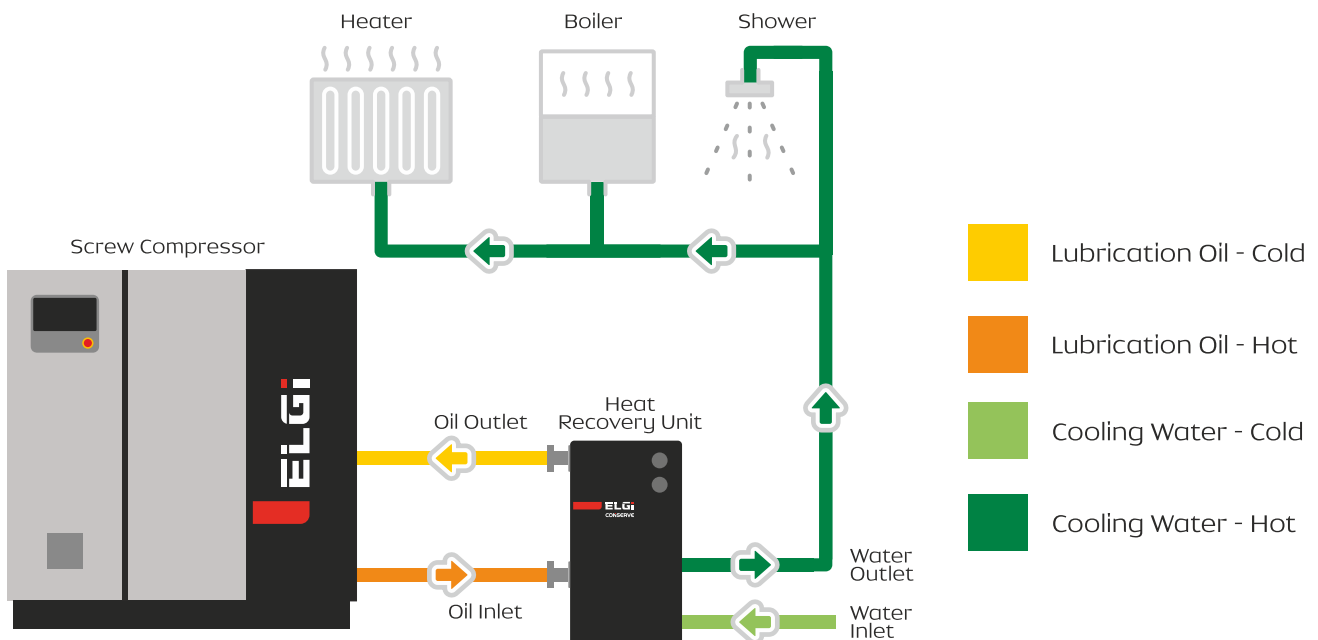
Keeping in mind the effects of Global warming in the present environment. ELGi has come up with a system where in 96% of the waste heat generated from the compressor can be utilized for heating air (space) and heating water. This in turn eliminates the necessity to go for an additional equipment to heat water or Air, there by reducing the CO2 emission to a larger extent.

## 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 rest 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	Rated Motor Power	Maximum available		Heated water volume		Potential fuel oil saving			Potential natural gas saving			Dimension	wt
		Heat capacity		$\Delta T_{25^{\circ}C}$	$\Delta T_{55^{\circ}C}$	Fuel oil	CO <sub>2</sub>	Heating cost saving for 2000 hrs per year	Natural gas	CO <sub>2</sub>	Heating cost saving for 2000 hrs per year	LxBxH	
	kW	kW	MJ/h	lpm	lpm	L	kg	INR/Year (₹)	m <sup>3</sup>	kg	INR/Year (₹)	mm	kgs
HR 11	11	10.5	37.8	6.1	2.8	2366	6436	141,973	2000	4000	140,000	600x400x850	53
HR 15	15	14.3	51.5	8.3	3.8	3223	8765	193,354	2724	5448	190,667	600x400x850	53
HR 18	18	17.0	61.2	9.9	4.5	3831	10420	229,862	3238	6476	226,667	600x400x850	55
HR 22	22	20.0	72.0	11.6	5.3	4507	12259	270,426	3810	7619	266,667	600x400x850	55
HR 30	30	27.4	98.6	15.8	7.2	6175	16795	370,483	5219	10438	365,333	600x400x850	56
HR 37	37	34.2	123.1	19.8	9.0	7707	20963	462,428	6514	13029	456,000	600x400x850	56
HR 45	45	42.0	151.2	24.3	11.1	9465	25745	567,894	8000	16000	560,000	600x400x850	59
HR 55	55	52.0	187.2	30.0	13.5	11718	31874	703,107	9905	19810	693,333	600x400x850	60
HR 75	75	70.0	252.0	40.5	18.5	15775	42908	946,490	13333	26667	933,333	712x400x850	75
HR 90	90	79.0	284.4	45.5	21.0	17690	48118	1,061,420	14952	29905	1,046,667	712x400x850	75
HR 110	110	95.0	342.0	55.0	25.0	21409	58232	1,284,522	18095	36190	1,266,667	800x520x800	110
HR 132	132	114.0	410.0	66.0	30.0	25690	69878	1,541,426	21714	43429	1,520,000	800x520x800	115
HR 160	160	140.0	504.0	81.0	37.0	31550	85815	1,892,979	26667	53333	1,866,667	800x520x800	125
HR 200	200	177.0	637.2	103.1	46.6	39888	108495	2,393,266	33714	67429	2,360,000	860x580x1067	193
HR 250	250	225.0	810.0	131.1	59.3	50705	137917	3,042,288	42857	85714	3,000,000	860x580x1067	210

Fuel value per litre of heating oil	9.861	kWh/l	Fuel value per m <sup>3</sup> of natural gas	10	kWh/m <sup>3</sup>
Fuel oil heating efficiency:	0.9	%	Natural gas heating efficiency	1	%
Price per litre of fuel oil:	₹ 60	INR/l	Price per m <sup>3</sup> of natural gas	₹ 70	INR/m <sup>3</sup>
Co <sub>2</sub> per litre of oil	2.72	kg	CO <sub>2</sub> per m <sup>3</sup> of gas	2	kg

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

# ELGI

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