

HRS Heat Recovery System



HRS is a system for the recovery of the heat generated by screw compressors, for the production of hot water.

Most of the energy used to produce compressed air is actually converted into heat: up to 90% of this energy is reusable!

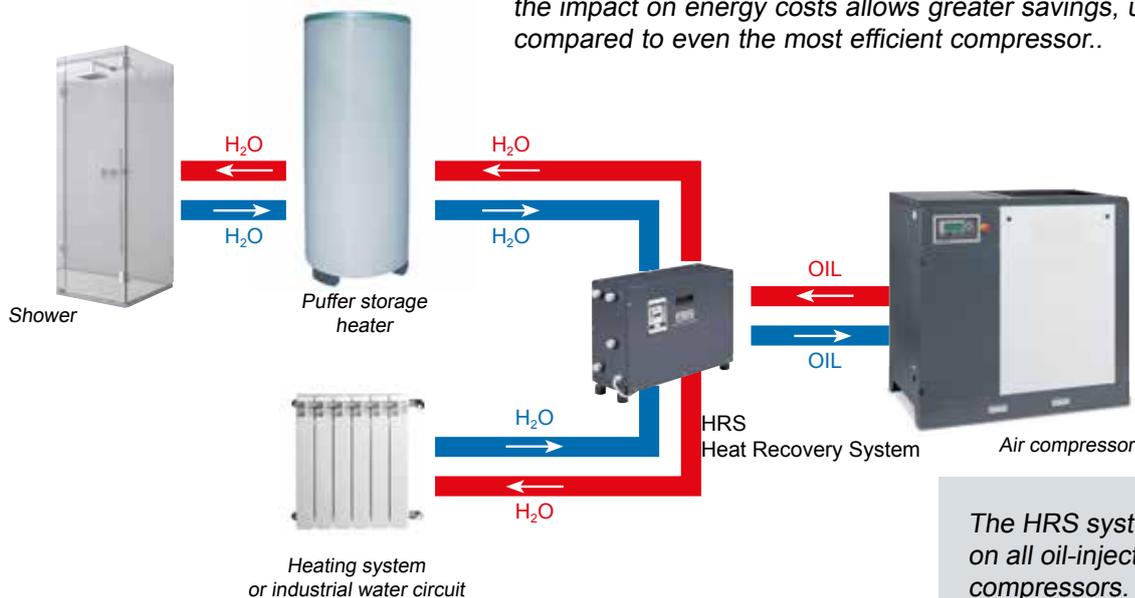
About 75% of the energy used is found in the lubrication and cooling circuit and can be used as a heat source, the remaining 15% is contained in the compressed air.

It is therefore easier to produce the compressed air in a reliable way, as it is to recover the thermal energy.

How great the recovery actually is, depends on the size of the compressors and the type of replaced energy (electricity, gas, heating oil), but the investment interest becomes sensitive from compressors of 11 kW installed power.

Given the current energy costs, the depreciation period of heat recovery systems fluctuates between 6 months and 2 years (with reference to a plate heat exchanger for heating systems).

Heat recovery is a real opportunity to increase the effectiveness of a compressed air system, the impact on energy costs allows greater savings, up to 3 times compared to even the most efficient compressor..



The HRS system can be used on all oil-injected screw compressors.

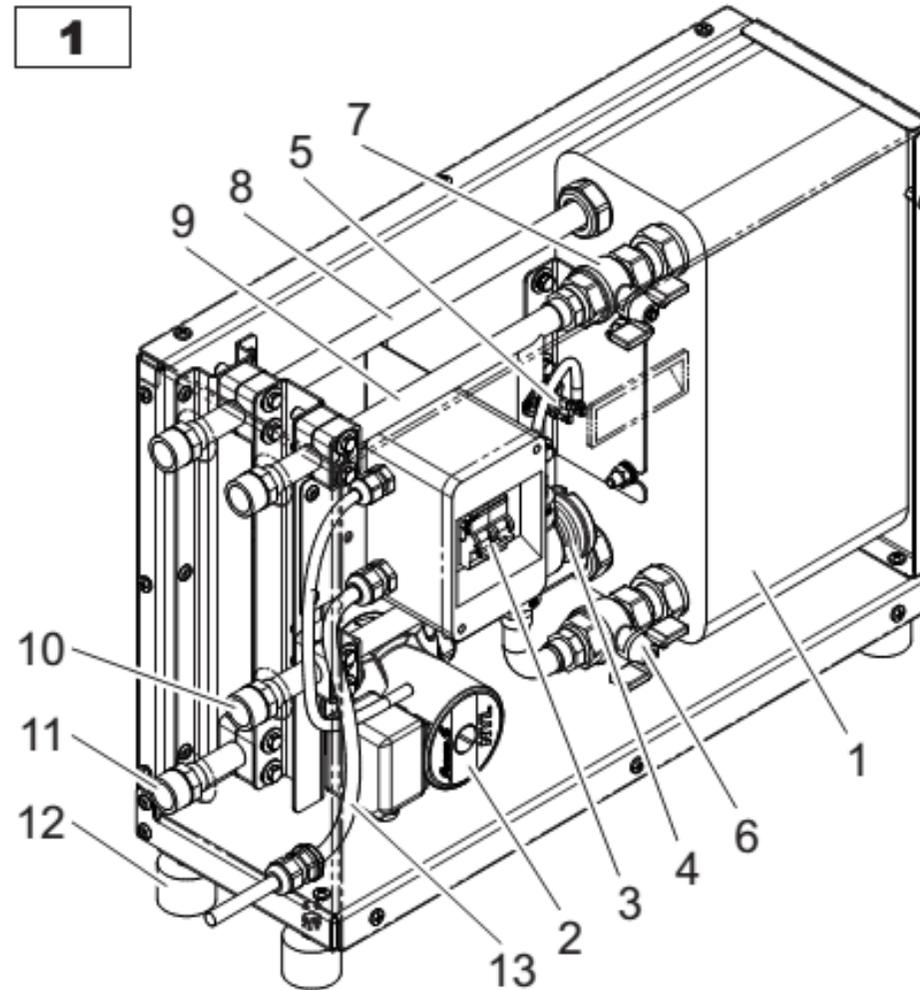
CODE	TYPE	V/Ph/Hz	kW*	Max water flow rate (m³/h)	G	L x D x H (mm)	kg	lbs
<i>HRS for screw compressors</i>								
	HRS 20	230/1/50	11 - 15	1,86	3/4"	666 x 236 x 430	24,2	53,3
	HRS 30	230/1/50	18,5 - 22	1,92	3/4"	666 x 236 x 430	24,4	53,8
	HRS 50	230/1/50	30 - 37	4,2	3/4"	666 x 236 x 430	27,5	60,6
	HRS 75	230/1/50	45 - 55	6	3/4"	666 x 236 x 430	29,3	64,6
	HRS 100	230/1/50	75	7,8	3/4"	666 x 236 x 430	35,3	77,8

* kW refer to the electric compressor power

HRS: energy recovery for installations with screw compressors

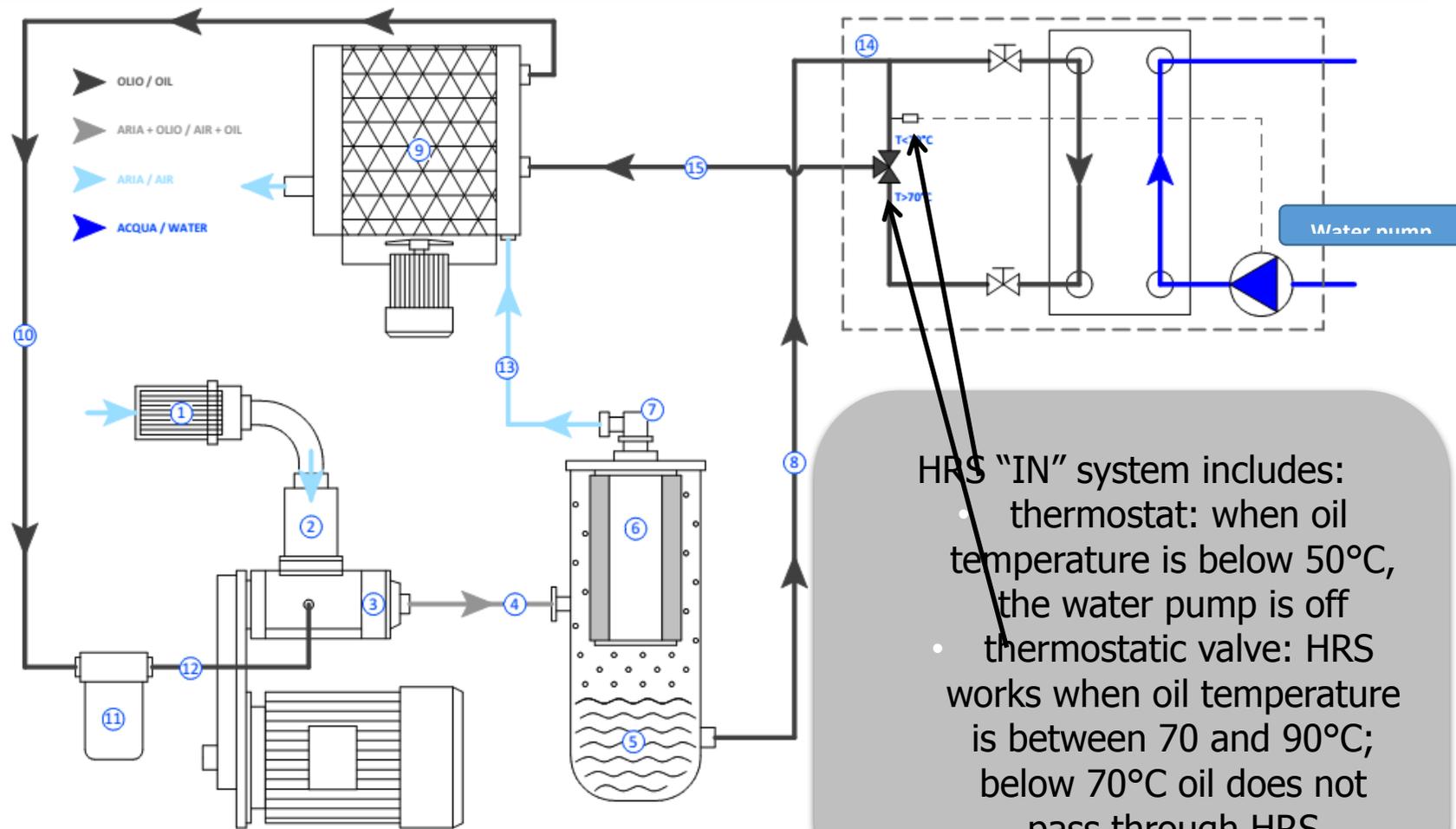
HRS components fig. 1

- 1) Heat exchanger
- 2) Water pump
- 3) Electric equipment
- 4) Thermostatic valve
- 5) Water thermostat
- 6) Oil outlet ball valve
- 7) Oil inlet ball valve
- 8) Water outlet pipe
- 9) Oil inlet pipe
- 10) Oil outlet pipe
- 11) Water inlet pipe
- 12) Anti-vibration pad
- 13) Power supply cable

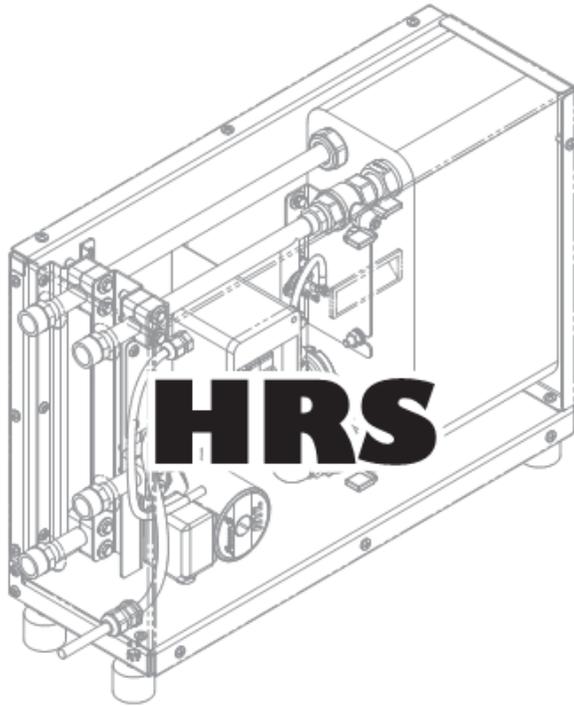


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HRS "IN" for compressors without thermostatic valve



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Technical features	U.M.	HRS 15 - 20	HRS 25 - 30	HRS 40 - 50	HRS 60 - 75
Air compressor power	kW	11 - 15	18,5 - 22	30 - 37	45 - 55
Max water/oil working pressure	bar	5 / 15	5 / 15	5 / 15	5 / 15
Minimum water intake pressure	bar	0,15	0,15	0,15	0,15
Water pump type	tipo	43-15	43-15	63-15	63-15
Max water flow rate	m3/h	3,5	3,5	4,5	4,5
Max water-glycol ratio	%	50	50	50	50
Ambient temperature	°C	> 0 - +50	> 0 - +50	> 0 - +50	> 0 - +50
Inlet oil temperature	°C	80	80	80	80
Outlet oil temperature	°C	70	70	70	70
Inlet water temperature	°C	50	50	50	50
Outlet water temperature	°C	60	60	60	60
Exchanged power	kW	< 12	< 17,6	< 29,6	< 44
Electrical data	U.M.				
Tensione di alimentazione	V/Ph	230/1	230/1	230/1	230/1
Frequenza	Hz	50	50	50	50
Dimensions and weight	U.M.				
Length	mm	610	610	610	610
Width	mm	195	195	195	195
Height	mm	441	441	441	441
Weight	kg	30,5	30,5	30,5	30,5
Oil / water outlet size	G	1/2" - 1"	1/2" - 1"	3/4" - 1"	3/4" - 1"