

**hertz**  
KOMPRESSOREN



**IMPETUS SERIES**  
**Rotary Screw Compressors**  
TWIN-STAGE

# IMPETUS is the NEW power to make things happen



Hertz Kompressoren products are built around core competences with a body of knowledge and a set of capabilities that enable to develop new and innovative solutions. The most recent is our IMPETUS series products. Impetus, the driving force, power, and energy solution to your compressed air needs.

Impetus provides competitive advantage with its two stage oil flooded rotary screw technology over single stage machines. The two stage air end features higher energy savings than the single stage air end. Under the same working conditions with equal discharge volume and pressure, two stage air ends save 15% more on energy consumption than single stage air ends.

Before the first stage compressed air gets into the second-stage unit, atomizing oil cooling is used to lower the inlet temperature of the second-stage unit so that the two compression units can keep isothermal compression, which raises adiabatic efficiency and reduces energy consumption.

The two-stage air end features the design of equal low internal pressure ratio with low leakage rate during the compression process, which enormously promotes the volumetric efficiency of the complete process (the volumetric efficiency of the two-stage air end is up to 93% while single stage air end is at most 90%)

- Two-stage compression reduces the compression ratio of each stage, reduces internal leakage, improves volumetric efficiency, reduces bearing load, and increases the life of the compressor.
- Two-stage replaces single-stage compression, and the displacement is increased by 15%, which can achieve an additional 15% energy saving effect.
- The rotor adopts the latest patented rotor UV profile, which has been refined by more than 20 procedures to ensure the accuracy, reliability, and effectiveness of the rotor profile.

## MOTOR

- IP55 electric motor with F class protection
- Motors with Class B temperature rise
- IE4 efficiency class motors provide maximum efficiency.
- Continuous working task (S1)



## SCREW

- Up to 10% energy savings with twin-stage screw unit
- Reduced internal loss
- With a low compression ratio, pressurization is shared in stages
- Very close to isothermal compression with two-stage compression
- Two-stage compression reduces axial and thrust force. This results in longer airend and bearing life.

## CONTROL PANEL

- Complies with IEC 60204-1 or UL 508A standards,
- Short circuit protection,
- Variable speed fan control
- Remote control of the compressor
- External VSD cabinet: The VSD is kept in a separate cabinet so that it is not affected by the temperature of the compressor. Specially cooled cab space for uninterrupted operation





## OPTIMISED AIR-OIL SEPARATION SYSTEM

Oil residue at the compressed air outlet is reduced to less than 3 mg with oil separator tank and sensitive air-oil separator with double surface.

### OIL FILTER

- Eco-friendly oil technology
- Metal alloy-free oil filter
- Aluminum housing
- Easy-swap oil filter

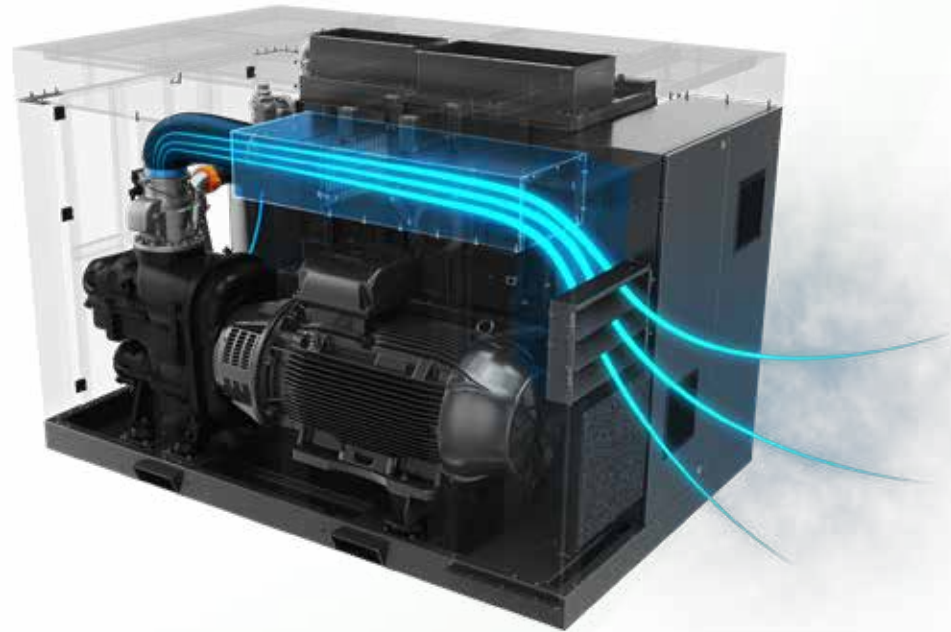
### WATER SEPARATOR

- Reliable pre-separation (> 99%)
- High separation efficiency even in harsh conditions
- Zero loss evacuation
- Low pressure drop



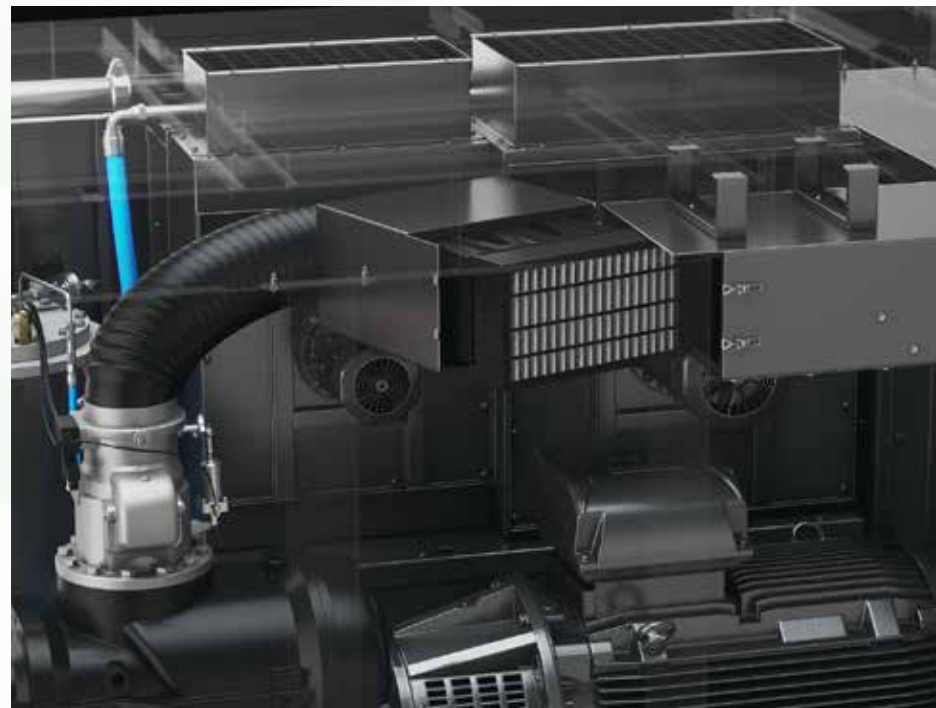
## AIR INTAKE

- Up to +2% contribution to energy efficiency by cold air absorption directly from the environment
- High energy efficiency with minimized suction pressure losses
- Low sound levels provided by acoustic improvement designs

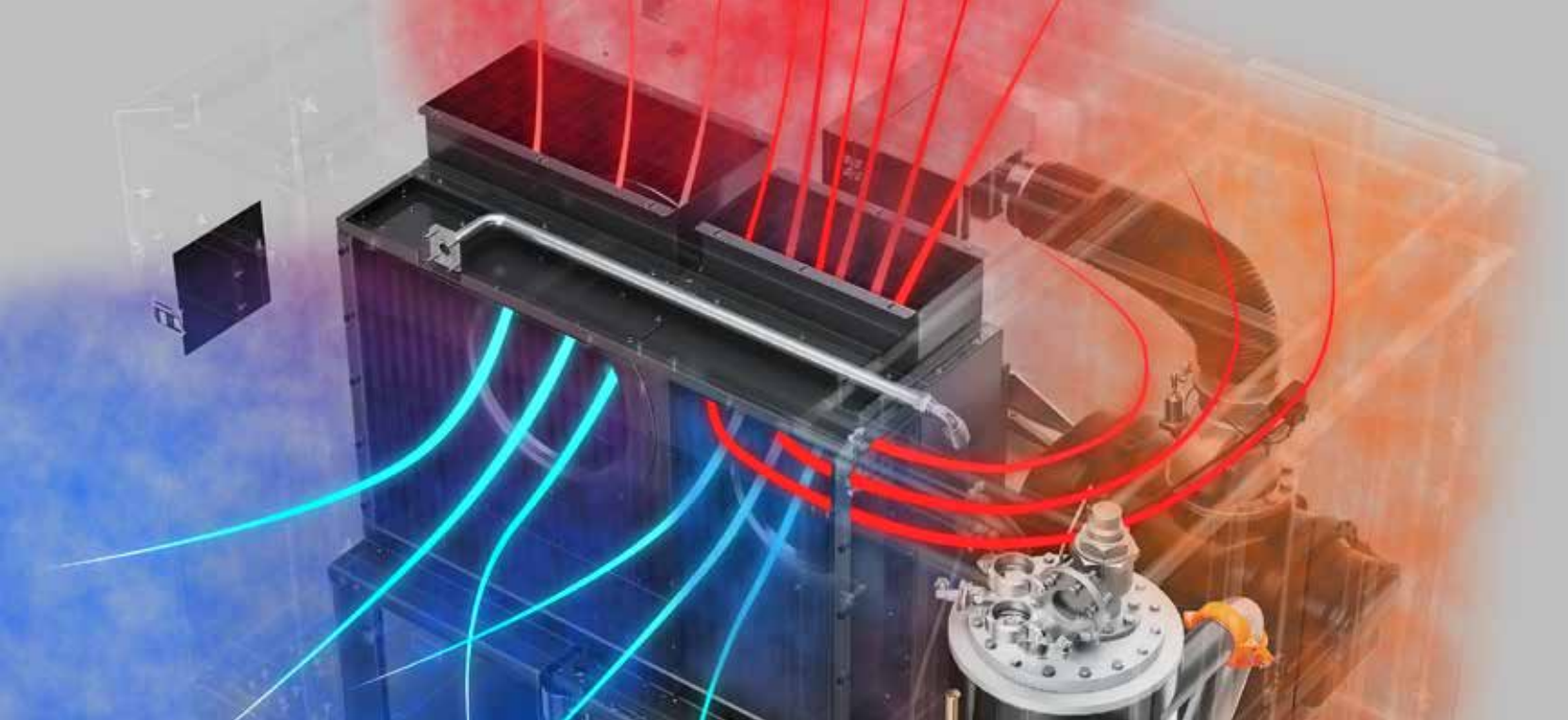


## AIR FILTER

- Protects the screw unit by separating particles up to 3 microns
- Suction Pressure Loss: High efficiency during maintenance time with <math>< 2 \text{ mbar}</math>
- Easy maintenance
- Long service life







## COOLING AIRFLOW

In all models of 90-315 kW the coolers are located vertically. With the help of radial fans, the air flow is passed directly over the coolers and the hot air is thrown directly upwards. The counter-pressure in front of the radial fans is reduced, increasing the efficiency of the cooling system. In addition, contamination of the internal parts of the compressor is prevented. The dust on the coolers can be quickly detected and easily cleaned.

## LOW OPERATING TEMPERATURE

Energy savings increase with the VSD controlled fan motor used in the cooling system. Depending on the ambient temperatures, cooling is provided according to the compressor needs and ensures that the compressor operates at the most efficient operating temperatures.

## COOLING SYSTEM

- Provides high cooling efficiency by separating air and oil.
- Suitable design for operation on 45°C.
- Low-speed radial fans provide low noise level.
- Thanks to the VSD controlled radial fan, optimum oil temperature is provided, and energy efficiency optimization is achieved.
- IE3 fan motors

## LOW PRESSURE AIR TEMPERATURE

With a low compressed air temperature, the condensate is first separated and then the dryer is operated healthily at the compressor outlet.

## EASY MAINTENANCE / SERVICE FRIENDLY

- The placement of important components in the compressor, which is regularly maintained, has been carefully made to ensure serviceability.
- Interior design with easy maintenance.
- Easy to change oil filter
- Air filter can be easily changed by opening the front cover.



TECHNICAL SPECIFICATIONS													
Model	Pressure		Capacity				Power (kW/HP)	Connection	Dimensions (mm)			Weight (kg)	Noise Level (dB(A))
	bar	psi	Max. (m³/min)	Max. (cfm)	Min. (m³/min)	Min. (cfm)			Length	Width	Height		
IMPETUS VSD 90	7,5	109	18,08	638	5,27	186	90/125	DN65	2775	1805	1926	3835	75
	8,5	123	17,14	605	5,30	187		DN65	2775	1805	1926	3835	75
	10	145	15,68	554	5,18	183		DN65	2775	1805	1926	3835	75
	13	189	13,52	477	5,10	180		DN65	2775	1805	1926	3835	75
IMPETUS VSD 110	7,5	109	22,81	806	6,98	247	110/150	DN65	2775	1805	1926	4200	75
	8,5	123	21,46	758	6,83	241		DN65	2775	1805	1926	4200	75
	10	145	20,00	706	6,81	240		DN65	2775	1805	1926	4200	75
	13	189	17,20	608	6,80	240		DN65	2775	1805	1926	4200	75
IMPETUS VSD 132	7,5	109	27,57	974	7,85	277	132/180	DN80	2950	1950	2000	4675	75
	8,5	123	26,17	924	7,83	276		DN80	2950	1950	2000	4675	75
	10	145	24,31	859	7,53	266		DN80	2950	1950	2000	4675	75
	13	189	21,26	751	7,47	264		DN80	2950	1950	2000	4675	75
IMPETUS VSD 160	7,5	109	32,44	1146	8,47	299	160/220	DN80	2950	1950	2000	5300	76
	8,5	123	30,64	1082	8,42	297		DN80	2950	1950	2000	5300	76
	10	145	28,03	990	8,40	296		DN80	2950	1950	2000	5300	76
	13	189	22,14	782	8,10	286		DN80	2950	1950	2000	5300	76
IMPETUS VSD 200	7,5	109	42,86	1514	11,79	416	200/270	DN 100	3500	2250	2350	6550	78
	8,5	123	39,94	1410	11,77	416		DN 100	3500	2250	2350	6550	78
	10	145	37,01	1307	11,62	410		DN 100	3500	2250	2350	6550	78
	13	189	30,54	1079	11,40	402		DN 100	3500	2250	2350	6550	78
IMPETUS VSD 250	7,5	109	51,82	1830	17,14	605	250/340	DN 100	3500	2250	2350	9400	79
	8,5	123	48,93	1728	17,06	602		DN 100	3500	2250	2350	9400	79
	10	145	45,68	1613	16,70	590		DN 100	3500	2250	2350	9400	79
	13	189	36,70	1296	16,37	578		DN 100	3500	2250	2350	9400	79
IMPETUS VSD 315	7,5	109	61,78	2182	16,80	593	315/430	DN 100	3500	2250	2350	9680	80
	8,5	123	59,01	2084	16,77	592		DN 100	3500	2250	2350	9680	80
	10	145	54,97	1941	16,73	591		DN 100	3500	2250	2350	9680	80
	13	189	45,73	1615	30,18	1066		DN 100	3500	2250	2350	9680	80

- Unit performances measured in reference conditions which are 1 bar absolute air Pressure, %0 relative humidity, 20°C inlet air temperature, 71°C thermostatic valve set temperature.
- HERTZ KOMPRESSOREN reserves its rights to make changes in its products and specifications without prior notice.



## TECHNICAL SPECIFICATIONS

Model	Pressure		Capacity		Power (kW/HP)	Connection	Dimensions (mm)			Weight (kg)	Noise Level (dB(A))
	bar	psi	(m³/min)	(cfm)			Length	width	Height		
IMPETUS 90	7,5	109	18,42	650	90/125	DN65	2775	1805	1926	3660	75
	8,5	123	14,65	517		DN65	2775	1805	1926	3660	75
	10	145	14,75	521		DN65	2775	1805	1926	3660	75
	13	189	13,51	477		DN65	2775	1805	1926	3660	75
IMPETUS 110	7,5	109	23,45	828	110/150	DN65	2775	1805	1926	4000	75
	8,5	123	21,65	765		DN65	2775	1805	1926	4000	75
	10	145	18,4	650		DN65	2775	1805	1926	4000	75
	13	189	14,5	512		DN65	2775	1805	1926	4000	75
IMPETUS 132	7,5	109	25,97	917	132/180	DN80	2950	1950	2000	4500	75
	8,5	123	25,95	916		DN80	2950	1950	2000	4500	75
	10	145	23,5	830		DN80	2950	1950	2000	4500	75
	13	189	21,6	763		DN80	2950	1950	2000	4500	75
IMPETUS 160	7,5	109	31,1	1098	160/220	DN80	2950	1950	2000	5000	76
	8,5	123	31,07	1097		DN80	2950	1950	2000	5000	76
	10	145	25,35	895		DN80	2950	1950	2000	5000	76
	13	189	25,3	893		DN80	2950	1950	2000	5000	76
IMPETUS 200	7,5	109	43,15	1524	200/270	DN 100	3500	2250	2350	6220	78
	8,5	123	40,52	1431		DN 100	3500	2250	2350	6220	78
	10	145	34,7	1225		DN 100	3500	2250	2350	6220	78
	13	189	30,5	1077		DN 100	3500	2250	2350	6220	78
IMPETUS 250	7,5	109	53,27	1881	250/340	DN 100	3500	2250	2350	9120	79
	8,5	123	50,24	1774		DN 100	3500	2250	2350	9120	79
	10	145	42,94	1516		DN 100	3500	2250	2350	9120	79
	13	189	40,37	1426		DN 100	3500	2250	2350	9120	79
IMPETUS 315	7,5	109	62,27	2199	315/430	DN 100	3500	2250	2350	9400	80
	8,5	123	54,93	1940		DN 100	3500	2250	2350	9400	80
	10	145	54,91	1939		DN 100	3500	2250	2350	9400	80
	13	189	43,91	1551		DN 100	3500	2250	2350	9400	80

- Unit performances measured in reference conditions which are 1 bar absolute air Pressure, %0 relative humidity, 20°C inlet air temperature, 71°C thermostatic valve set temperature.
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**HERTZ KOMPRESSOREN GLOBAL**

export@hertz-kompressoren.com

**HERTZ KOMPRESSOREN GmbH**

Kronacher Str. 60, 96052 Bamberg

T. +49 951 96 43 13 88

F. +49 951 96 43 13 50

info@hertz-kompressoren.de

**HERTZ KOMPRESSOREN USA Inc.**

3320 Service St. Charlotte, NC 28206 USA

Phone : +1-704-579-5900

Fax : +1-704-579-5997

info@hertz-kompressoren.us

**hertz**<sup>®</sup>  
KOMPRESSOREN

 [hertz-kompressoren.com](http://hertz-kompressoren.com)