

Liquid ring compressors

KPH 95652

Compression pressures: 6 to 12 bar(g)
Suction volume flow: 2960 to 3600 m³/h

78 to 174 psig
1742 to 2119 cfm

DESIGN TYPE

SIHI liquid ring compressors are displacement compressors of simple and robust construction having following special characteristics:

- pumping of nearly all gases and vapours
- non-polluting due to a nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- additional liquid can be handled with the gas flow
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly anywhere
- incorporated central drain
- no metallic contact of the rotating parts
- full API 681 compliant

The SIHI liquid ring compressors KPH 95652 are three stage compressors, with two single acting stages and one double acting stage using two impellers.



APPLICATION

Every application where pumping gas has to be compressed carefully to an over pressure of 12 bar(g) / 174 psig and only a small increase in temperature is admissible. Fields of application are e.g.

- recovery of solvent or vinyl chloride vapour
- flare gas
- water treatment

NOTE

During the operation the compressor must continuously be supplied with service liquid, normally water, in order to eliminate the heat resulting from the gas compression and to replenish the liquid ring, because part of the liquid is leaving the pump together with the gas. This liquid can be separated from the gas in a pressure liquid separator. It is possible to reuse the service liquid. The direction of rotation is clockwise when looking from the drive on the pump.

GENERAL TECHNICAL DATA

Pump type	Unit (SI)	KPH 95652	Unit (US)	KPH 95652
Speed	50 Hz	985	rpm	985
	60 Hz	880 1180		880 1180
Max. compression over pressure	bar(g)	12	psig	174
Hydraulic test (over pressure)	bar(g)	22.5	psig	326
Moment of inertial of the rotating pump parts and of the water filling	kg · m ²	30.7	lb · ft ²	728
Max. sound pressure level of measuring area	dB (A)	84	dB (A)	84
Max. gas temperature	°C	100	°F	212
Service liquid (depending on application) max. admissible temperature volume up to shaft level	°C	80	°F	183
	liter	147	gal	38.8

The combination of several limiting values is not admissible.

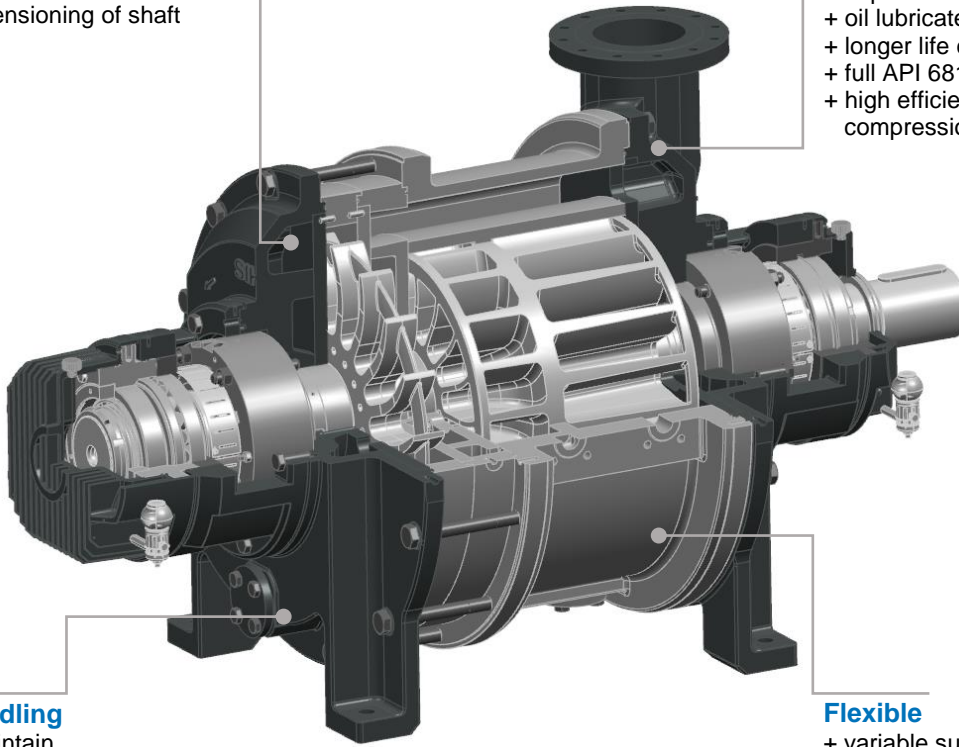
Benefits of KPH 95652

Robust and reliable

- + suction capacity up to 3600 m³/h / 2119 cfm
- + solid components
- + robust dimensioning of shaft

Beneficial construction

- + inner gas distribution
- + flexible connections
- + impeller between bearings
- + oil lubricated bearings
- + longer life cycle of bearings
- + full API 681 compliant
- + high efficiency due to three stage compression



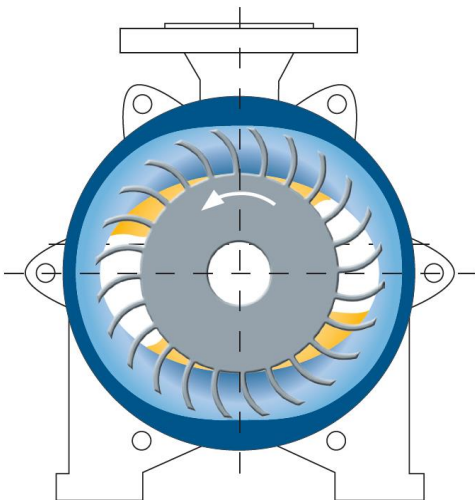
Simple handling

- + easy to maintain
- + maintenance in situ
- + simple Start/Stop

Flexible

- + variable suction pressure
- + variable regulation of volume flow
- + separate cooling possibility
- + variable customer-oriented solutions of seals
- + materials on request

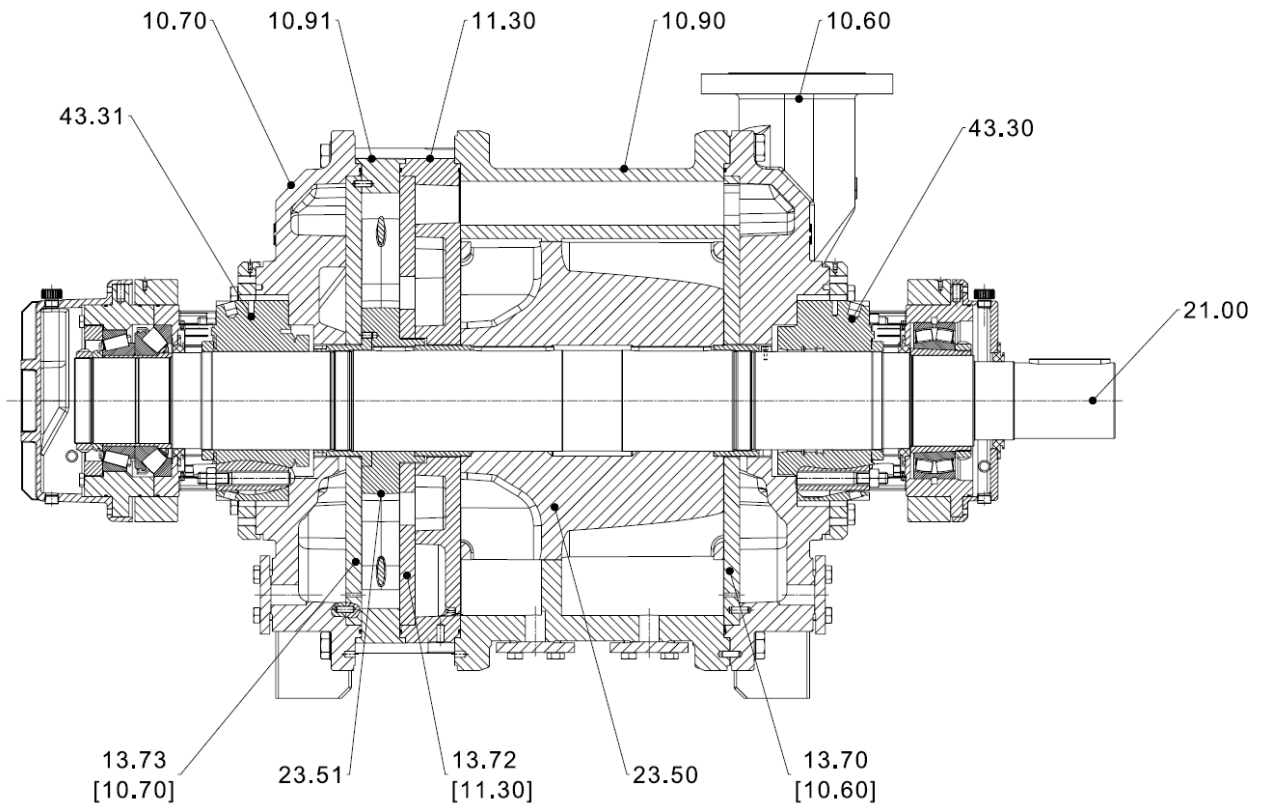
Combined acting design



For realization of high compression pressures at large volumetric flow rates the liquid ring compressors are developed with a combination of single and double acting design. The machines are working almost with an isothermal three-stage compression.

In the double-acting design the impeller is arranged concentrically in the casing. The particular shape of the casing allows the liquid ring to flow into and out of the impeller cells twice during each rotation of the impeller. This means that gases will go twice through the compressor stage.

Sectional Drawing of KPH 95652

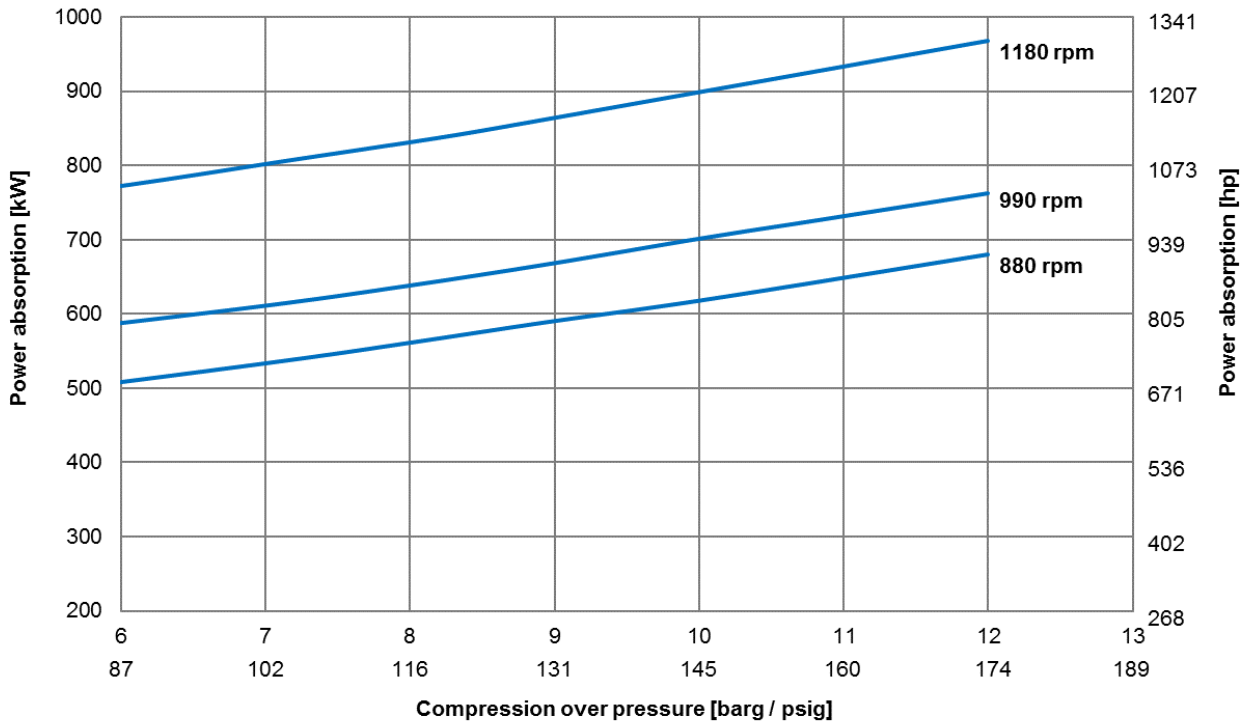
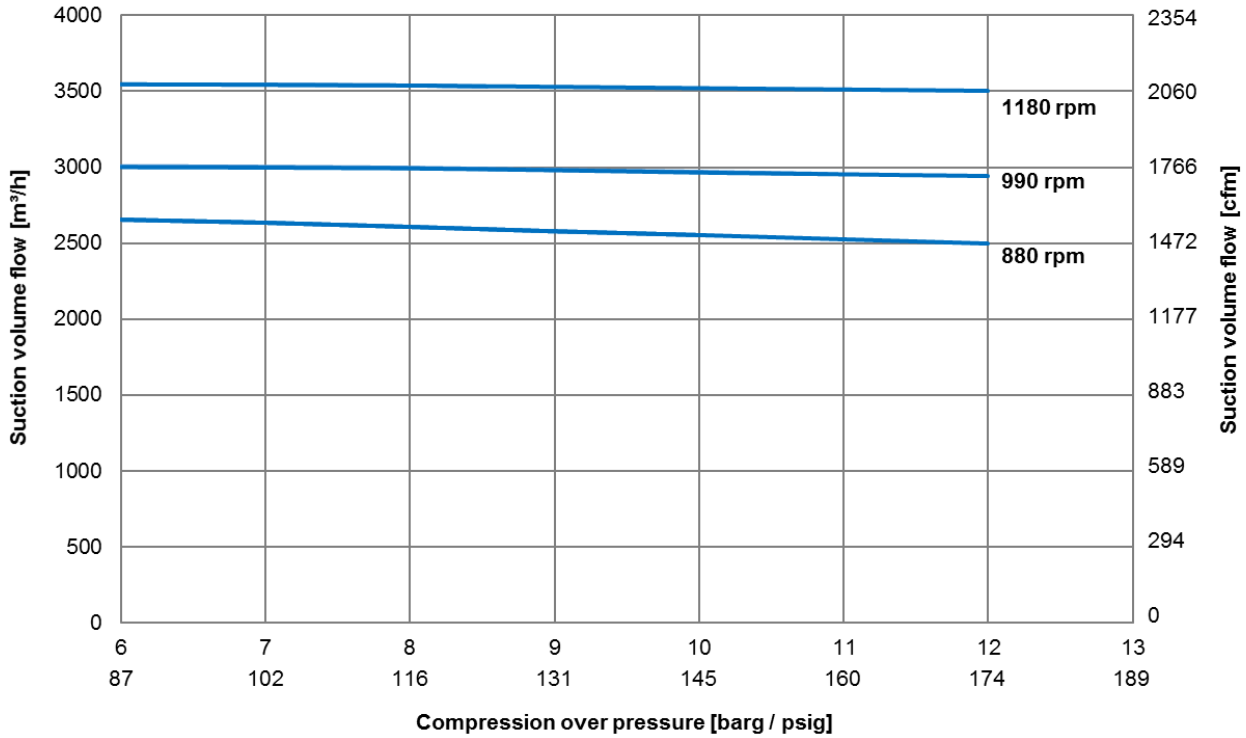


Material Design of KPH 95652

Item.	COMPONENTS	STANDARD MATERIAL DESIGN
10.60/10.70	Casing	SS 316L / 1.4409
10.90/10.91	Central body	SS 316L / 1.4409
11.30	Intermediate	SS 316L / 1.4409
13.70/13.72/13.73	Guide disc	SS 316L / 1.4409
21.00	Shaft	17-4PH
23.50/23.51	Vane wheel impeller	SS 316L / 1.4409
43.30/43.31	Mechanical seal	on request
52.60	Shaft sleeve	SS 316L / 1.4409

NOTE: Customizing of all materials and seals on request.

Suction Volume Flow and Power Absorption KPH 95652



The values are valid under the following conditions:

- Medium : - dry air : 20°C / 68 °F
- Service liquid : - water : 20°C / 68 °F

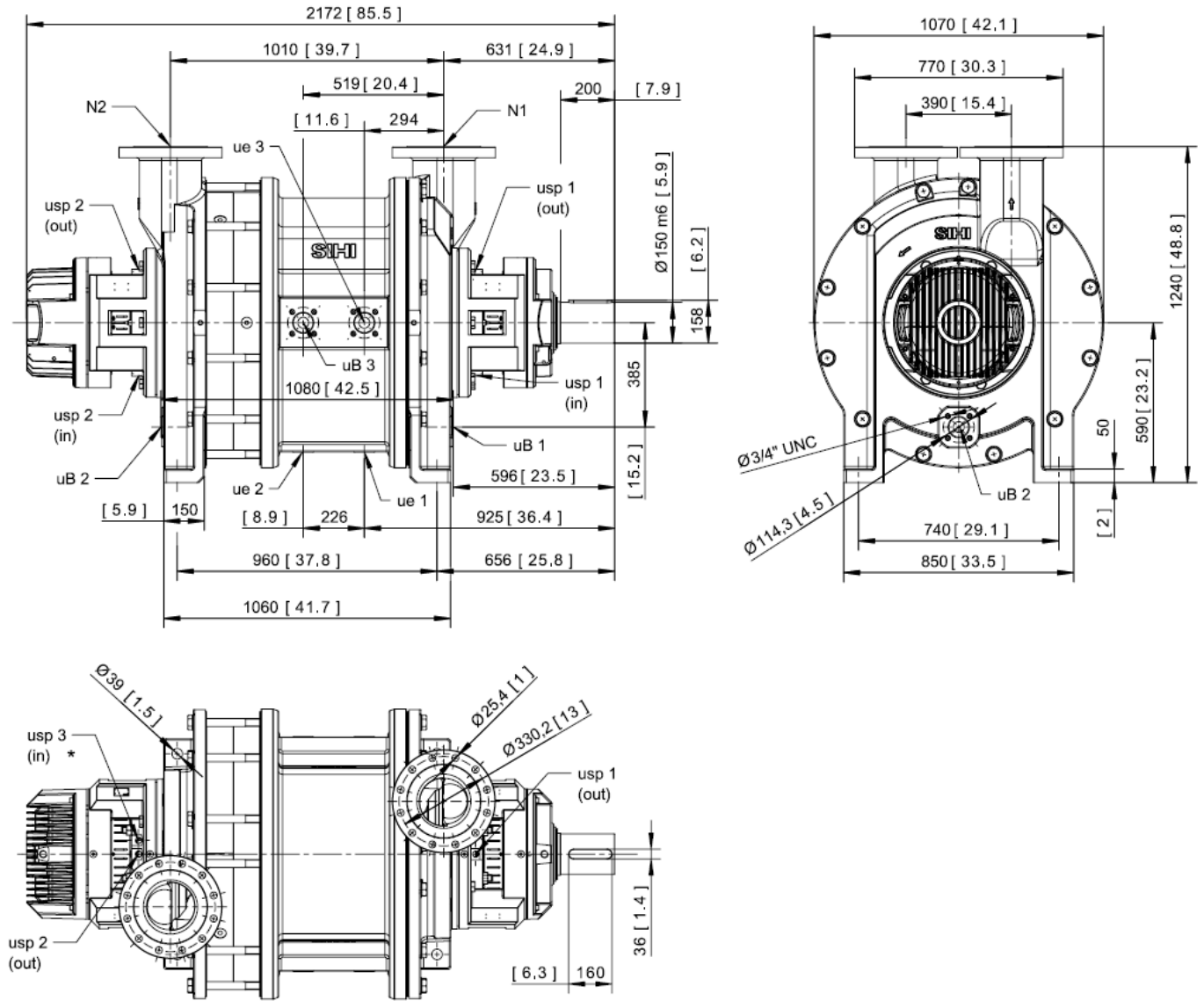
Suction pressure: 1013 mbar / 760 torr (atmospheric pressure)

Tolerance of the curve values is 10%.

The data indicated change with deviating service conditions, such as deviating physical data of the gas to be handled or of the service liquid (vapour pressure, temperature, density, viscosity) when handling entrained liquid, at a suction pressure deviating from atmospheric pressure handling gas vapour mixtures.

Dimension Table of KPH 9562

Dimension mm [inch]



POS	DESIGNATION	SIZE	STANDARD
usp 1 - 3	Connection for flushing liquid mechanical seal	¾" NPT	ANSI B 1.20.1
ue 3 / 4	Connection for center line drainage	1 1/2"	ASME B16.5 Class 300 RF seal face Ra 3.2
ue 1 / 2	Connection for drainage	1 1/2"	ASME B16.5 Class 300 RF seal face Ra 3.2
uB 1 - 4	Connection for service liquid	1 1/2"	ASME B16.5 Class 300 RF seal face Ra 3.2
N2	Gas outlet	200 mm / 8"	ASME B16.5 Class 300 RF seal face Ra 3.2
N1	Gas inlet	200 mm / 8"	ASME B16.5 Class 300 RF seal face Ra 3.2

Weight: 4280 kg / 9436 lbs

Any changes in the technical development are reserved.

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