



**SAMSON LIQUID RING VACUUM PUMPS**

**KL-SERIES**

**DATASHEET  
KL-SERIES**

Range: 33 mbar, absolute to 2.5 bar, gauge

Capacity: From 250 m<sup>3</sup>/h to 580 m<sup>3</sup>/h



**SAMSON PUMPS**



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## ABOUT SAMSON PUMPS

SAMSON PUMPS was established in 1938 by the local blacksmith in a small town near Viborg, Denmark. It all started with a production of machinery and tools for the local farmers.

Now with more than 40 years of experience within vacuum technology SAMSON PUMPS has a large number of equipment installed in industries worldwide. SAMSON vacuum pumps are well known for its strength, reliability and low maintenance costs.

### Quality

All SAMSON vacuum pumps are tested before dispatch from the factory.

### Delivery

SAMSON PUMPS has a large amount of standard pumps on stock and we are known for our short lead time.

### Service

SAMSON PUMPS has service facilities and all serviced pumps are tested to fulfill the original specifications.

### Main markets

- Fish industry
- Offshore
- Vacuum conveying
- Food industry
- Truck building industry

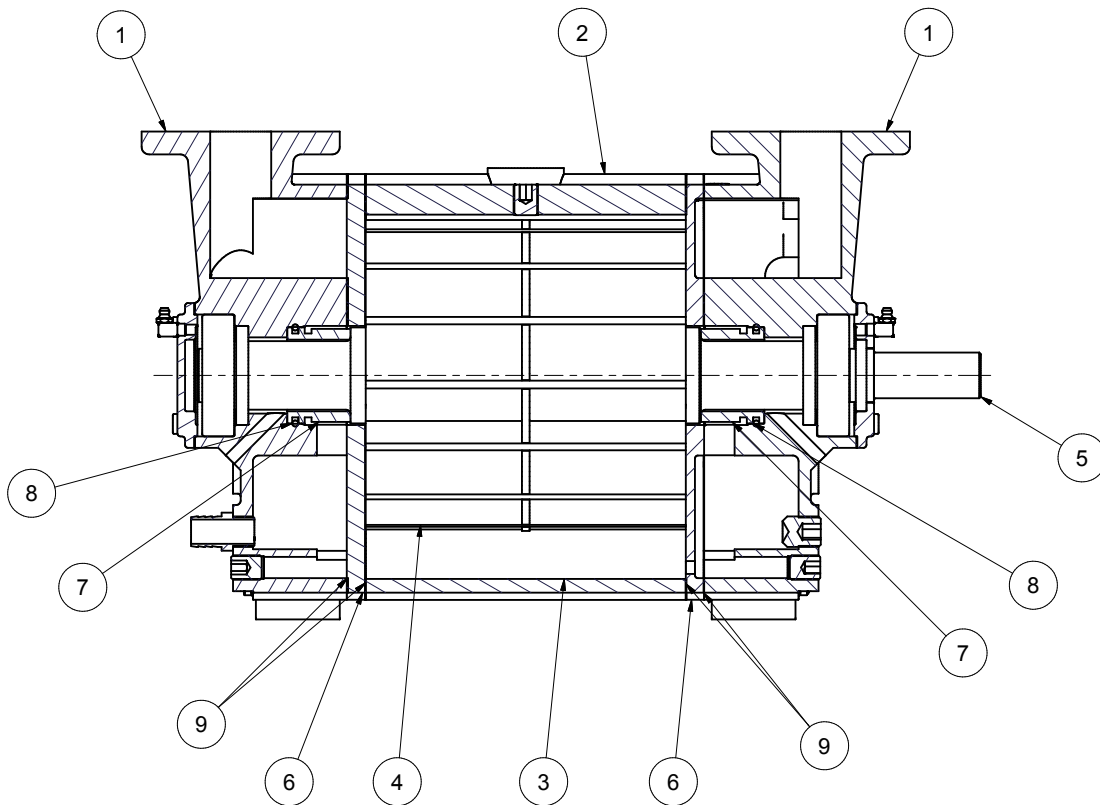
**MATERIALS**

Position / Components	Material		KL350	KL400	KL430	KL500
1: Pump housing	Cast iron	EN-GJL-250; EN 1561	•	•	•	•
	Stainless steel	EN 1.4401	—	—	—	—
2: Branch pipes *	Cast iron	EN-GJL-250; EN1561	•	•	•	•
	Stainless steel	EN 1.4401	—	—	—	—
3: Shell	Cast iron	EN-GJL-250; En 1561	•	•	•	•
	Stainless steel	EN 1.4401	—	—	—	—
4: Rotor	Cast iron	EN-GJS-400-15; EN 1561	—	•	—	•
	Stainless steel	EN 1.4404	•	—	•	—
5: Rotor shaft	Stainless steel	EN 1.4418	•	•	•	•
6: Flow plates	Cast iron	EN-GJL-250; EN 1561	•	•	•	•
	Bronze	GC-CU-Sn10 DIN 1705	—	—	—	—
	Stainless steel	AISI 316	•	•	•	•
7: Mechanical shaft seal	Stainless steel/NBR	EN 1.4301/NBR	•	•	•	•
	Stainless steel/EPDM	EN 1.4301/EPDM	—	—	—	—
	Stainless steel/Teflon	EN 1.4301/PTFE	—	—	—	—
8: O-rings	Nitrile	NBR	•	•	•	•
	Ethylene Propylene Diene Monomer	EPDM	•	•	•	•
	VITON	FKM	•	•	•	•
9: Gaskets	Paper gasket	Oil resistant	•	•	•	•
	Rubber gasket	NBR	—	—	—	—

Available = •

Not available = —

\* = Build-in



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# KL SERIES

## TECHNICAL DATA

			KL350	KL400	KL430	KL500
Weight	Ex. branch pipes	[kg]	—	—	—	—
	Incl. branch pipes *	[kg]	100	100	112	112
Sound pressure		[db(A)]	70	70	70	70
Pressure test		[bar, gauge]	5	5	5	5
Rotation speed range		[rpm]	1.200 - 1.800			
Temperature	Gas temp, max	[°C]	120	120	120	120
	ATEX, Gas temp, max	[°C]	—	—	—	—
	Service liquid temp, max	[°C]	90	90	90	90
	ATEX, service liquid temp, max	[°C]	—	—	—	—
Bearing type	Ball bearing, DE		•	•	•	•
	Ball bearing, NDE		•	•	•	•
	Roller bearing, spheric, DE		—	—	—	—
	Roller bearing, spheric, NDE		—	—	—	—
Pump colour	RAL code	RAL 5021	•	•	•	•
Connection, water supply	Nipple hose	1/2"/Ø16	•	•	•	•
Approvals	ATEX certified	Ex II2 G c T4 (zone 1)	—	—	—	—

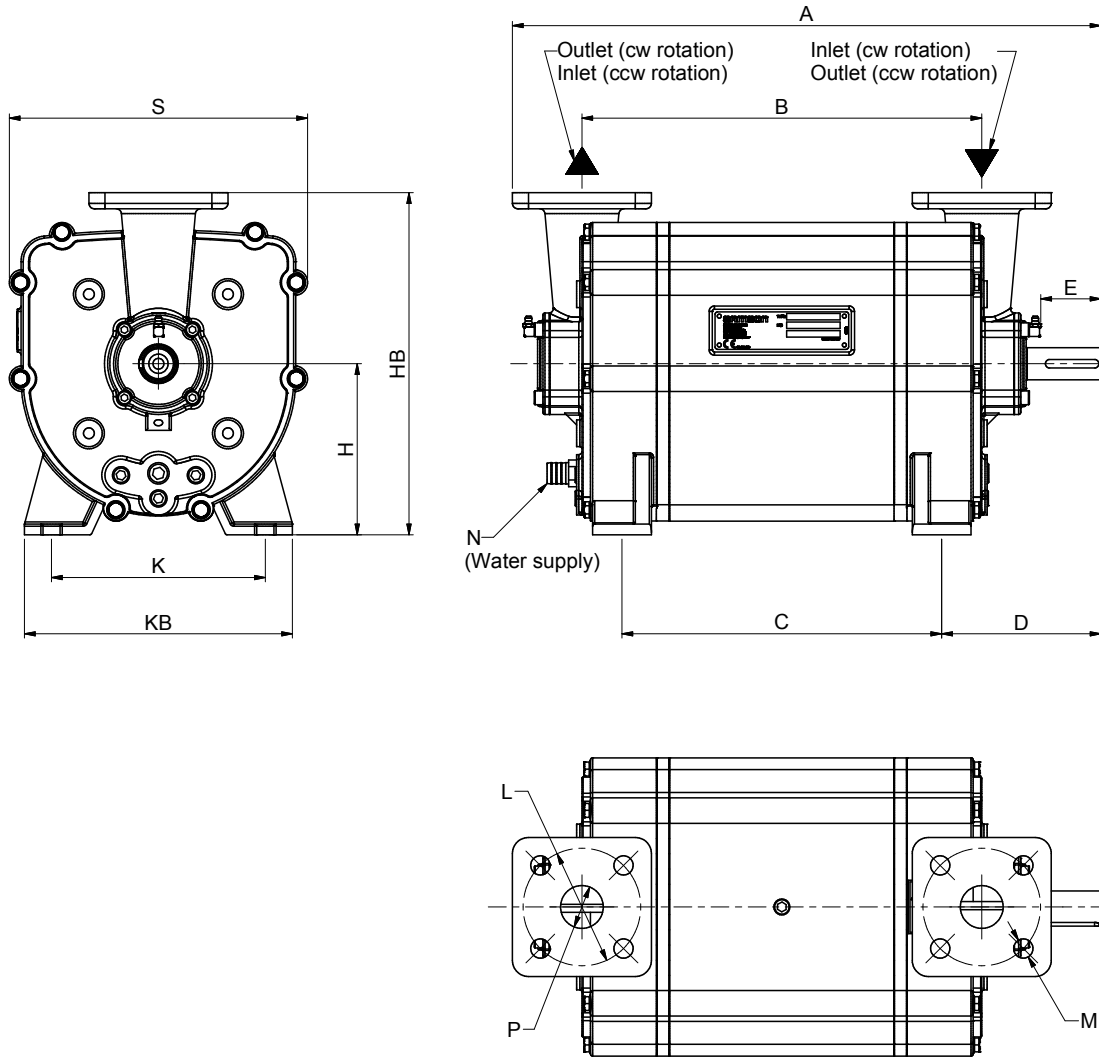
Available = •

Not available = —

\* = Build-in

**DIMENSIONS [mm]**

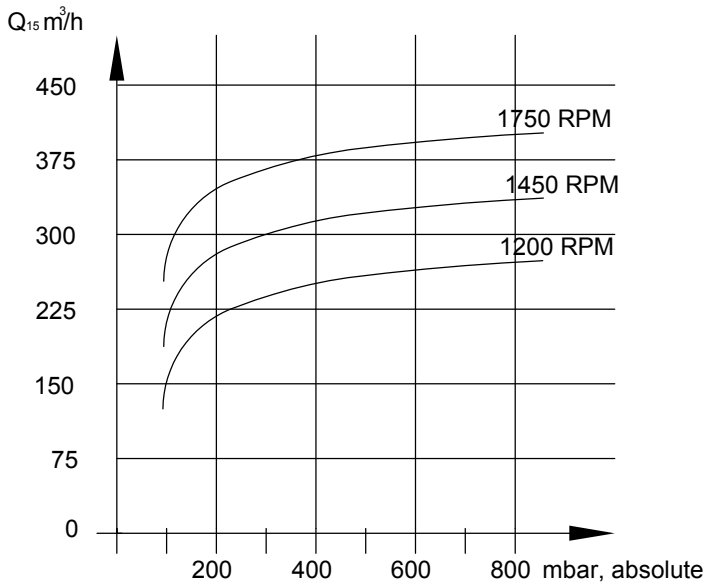
Pump type	A	B	C	D	E	F	H	HB	K	KB	L	M	N	P
KL350	542	375	305	136.5	60	Ø30/k6	180	350	240	295	Ø125	Ø18	1/2" / Ø16	Ø50
KL400	542	375	305	136.5	60	Ø30/k6	180	350	240	295	Ø125	Ø18	1/2" / Ø16	Ø50
KL430	602	436	366	136.5	60	Ø30/k6	180	350	240	295	Ø125	Ø18	1/2" / Ø16	Ø50
KL500	602	436	366	136.5	60	Ø30/k6	180	350	240	295	Ø125	Ø18	1/2" / Ø16	Ø50



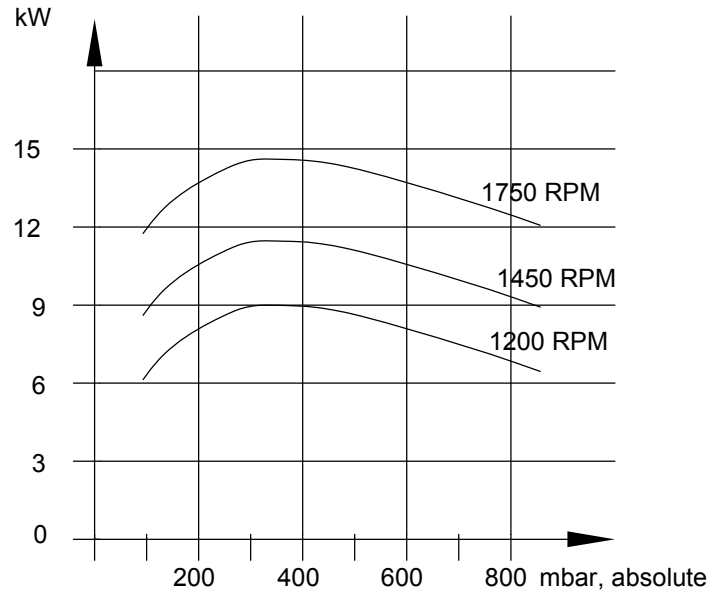
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# KL350 - Vacuum performance

KL350 VACUUM PERFORMANCE - DRY AIR

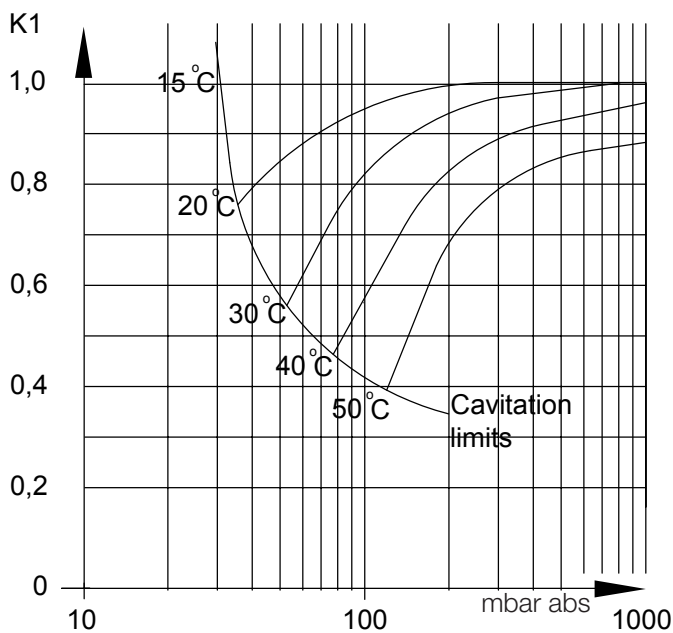


KL350 POWER CONSUMPTION - VACUUM



Air temperature 20°C  
 Sealing water temperature 15°C  
 Performance based on dry air at 1013 mbar absolute  
 Tolerance +/- 10%

CORRECTION FACTOR BASED ON SEALING LIQUID TEMPERATURE



$Q_t = Q_{15} * K$   
 Pump performance at temperature of sealing liquid higher than 15°C

## VACUUM OPERATION:

Performance and power consumption are based on a constant service liquid pressure at +/- 0.2 bar gauge. Deviations will affect the performance and power consumption.

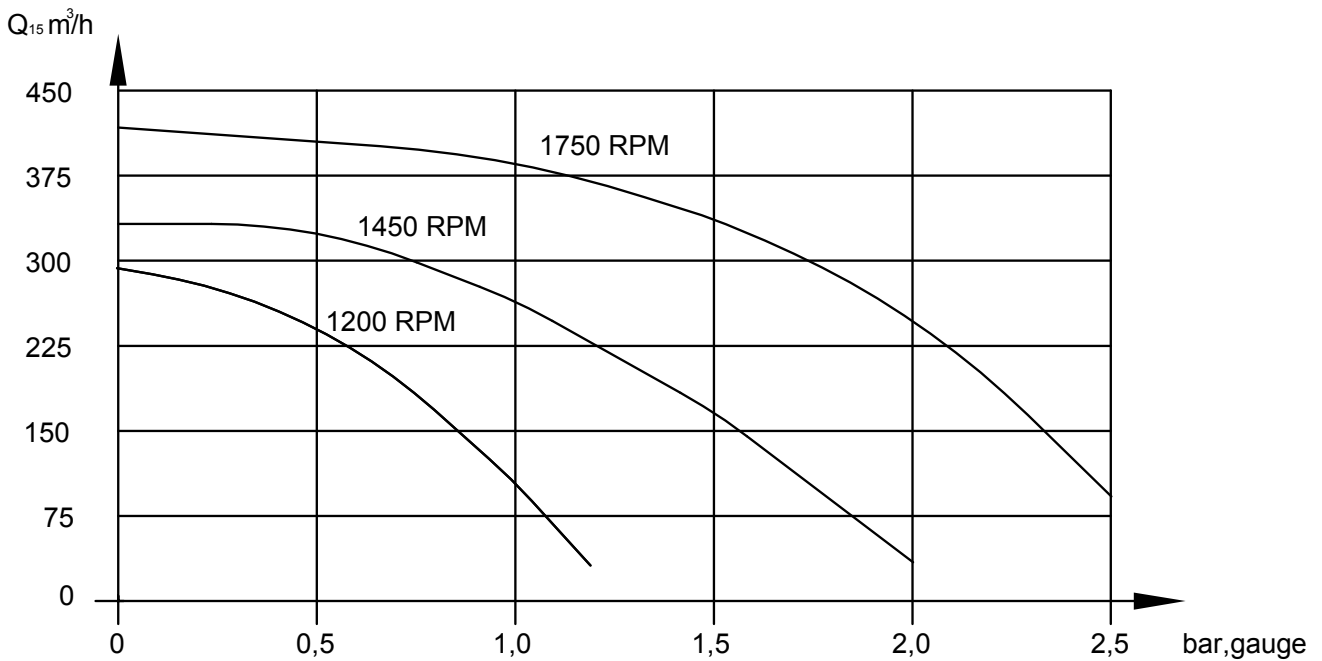
Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be reused and will reduce the costs of operation.

If operating without liquid separator, the pump must be supplied with 0.2  $m^3/h$  as a minimum in considerations to lubrication and cooling of the mechanical shaft seals.



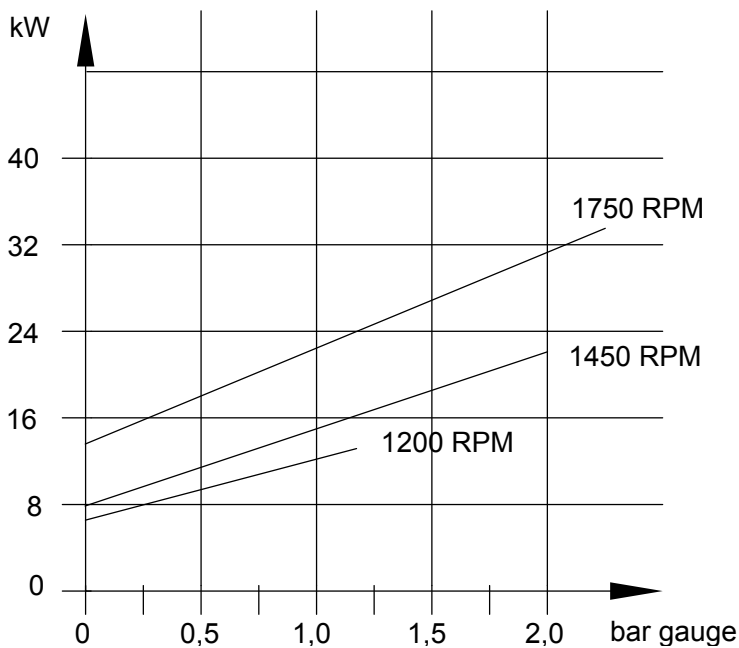
# KL350 - Pressure performance

KL350 PRESSURE PERFORMANCE



Air temperature 20°C, Sealing water temperature 15°C  
Tolerance  $\pm 10\%$

KL350 POWER CONSUMPTION - PRESSURE



## PRESSURE OPERATION:

Performance and power consumption are based on a constant service liquid flow at  $1.5 \text{ m}^3/\text{h}$ .

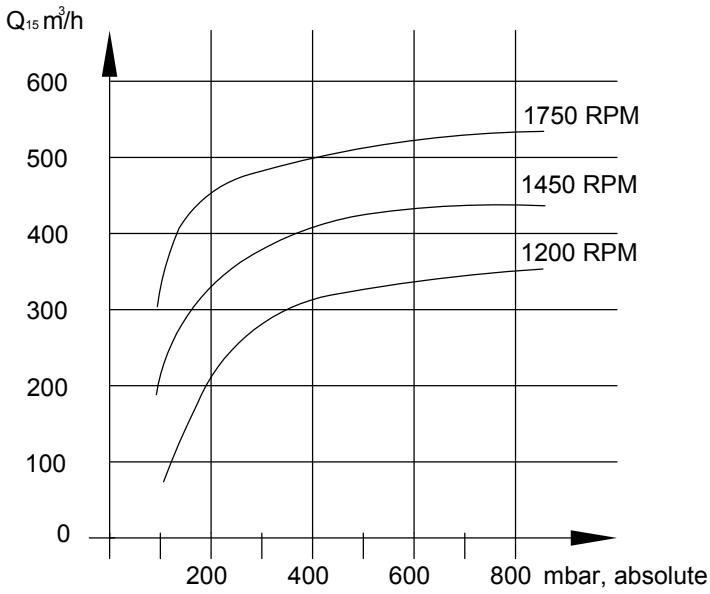
Deviations will affect the performance and power consumption.

Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be re-used and will reduce the costs of operation.

If operating without liquid separator the pump must be supplied with  $0.2 \text{ m}^3/\text{h}$  as a minimum in considerations to lubrication and cooling of the mechanical shaft seals.

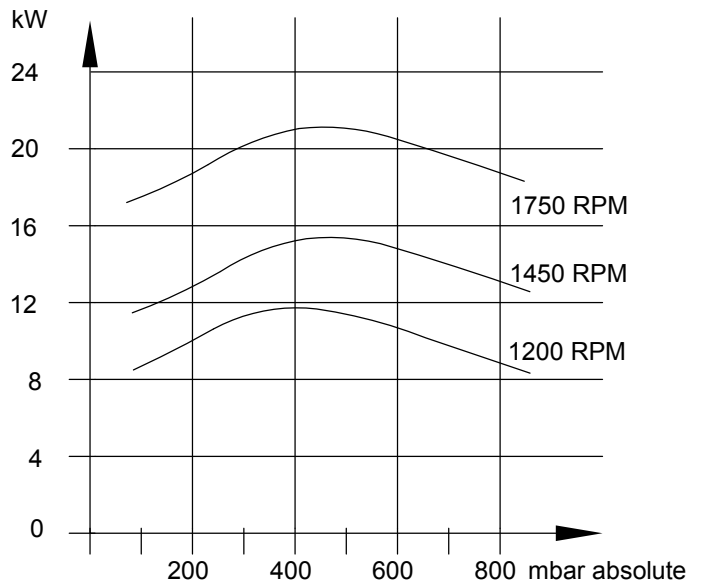
# KL430 - Vacuum performance

KL430 VACUUM PERFORMANCE - DRY AIR

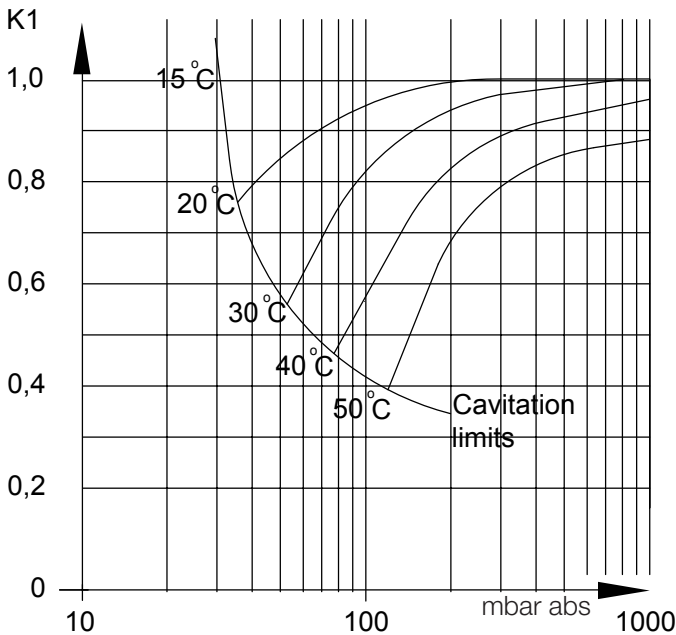


Air temperature 20°C  
 Sealing water temperature 15°C  
 Performance based on dry air at 1013 mbar absolute  
 Tolerance +/- 10%

KL430 POWER CONSUMPTION - VACUUM



CORRECTION FACTOR BASED ON SEALING LIQUID TEMPERATURE



$Q_1 = Q_{15} * K$   
 Pump performance at temperature of sealing liquid higher than 15°C

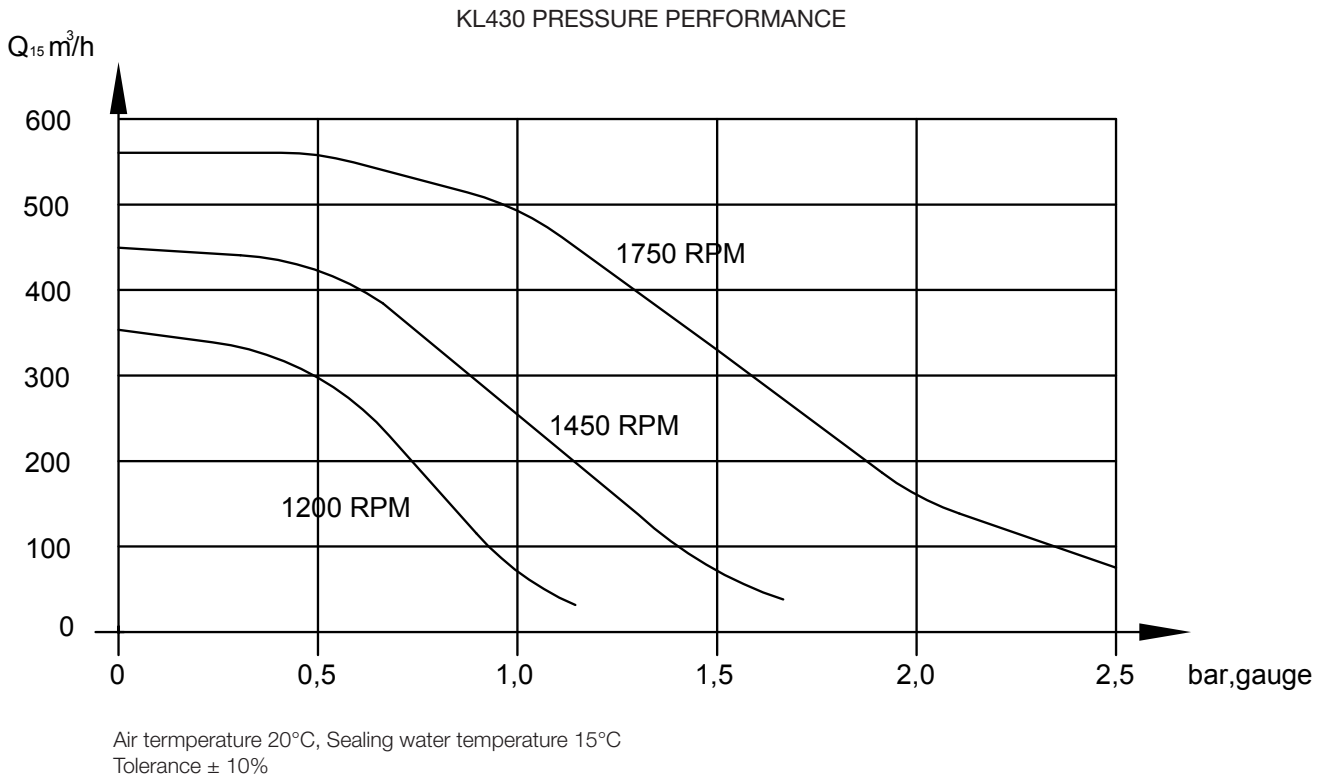
## VACUUM OPERATION:

Performance and power consumption are based on a constant service liquid pressure at +/- 0.2 bar gauge. Deviations will affect the performance and power consumption.

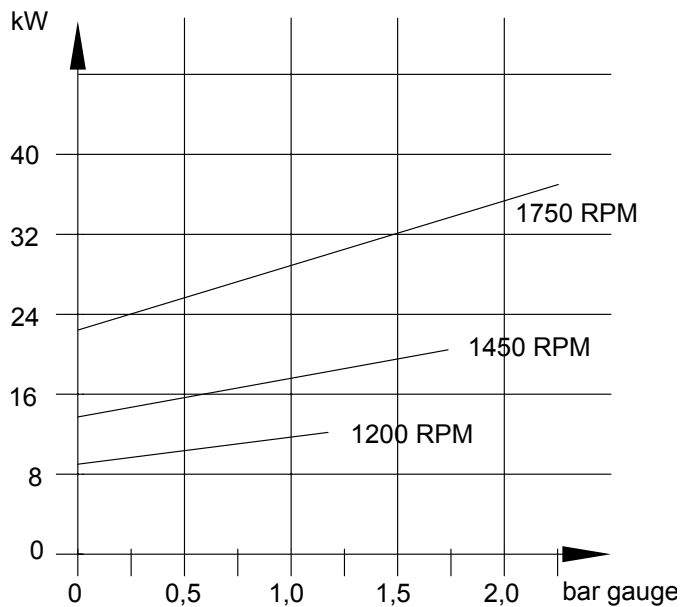
Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be reused and will reduce the costs of operation.

If operating without liquid separator, the pump must be supplied with 0.2 m³/h as a minimum in considerations to lubrication and cooling of the mechanical shaft seals.

# KL430 - Pressure performance



## KL430 POWER CONSUMPTION - PRESSURE



### PRESSURE OPERATION:

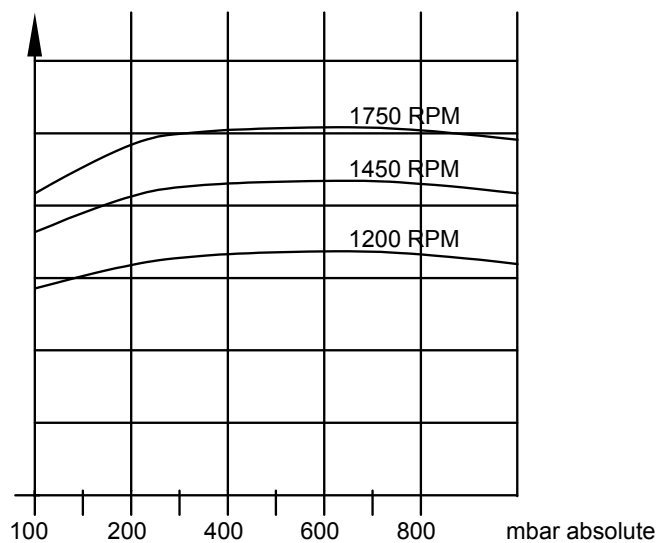
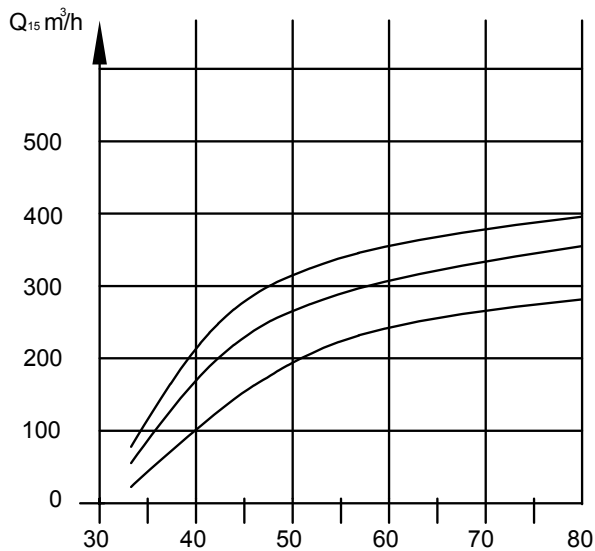
Performance and power consumption are based on a constant service liquid flow at 1.5 m<sup>3</sup>/h. Deviations will affect the performance and power consumption.

Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be re-used and will reduce the costs of operation.

If operating without liquid separator the pump must be supplied with 0.2 m<sup>3</sup>/h as a minimum in considerations to lubrication and cooling of the mechanical shaft seals.

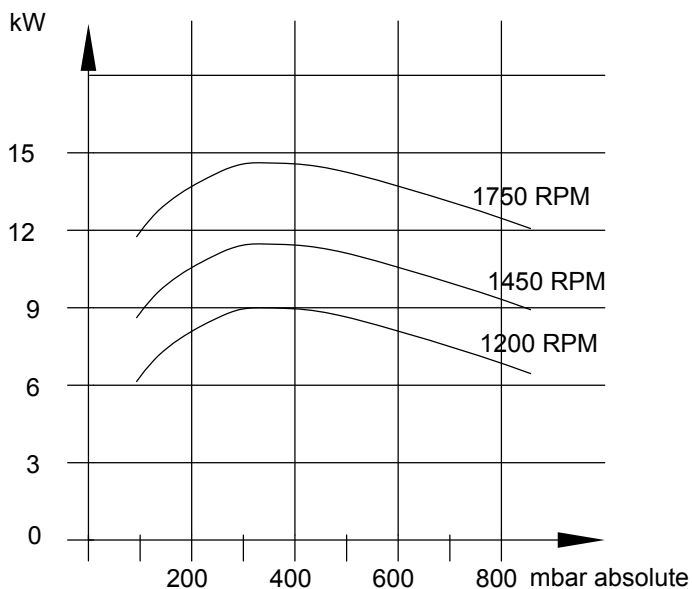
# KL400 - Vacuum performance

KL400 VACUUM PERFORMANCE - DRY AIR

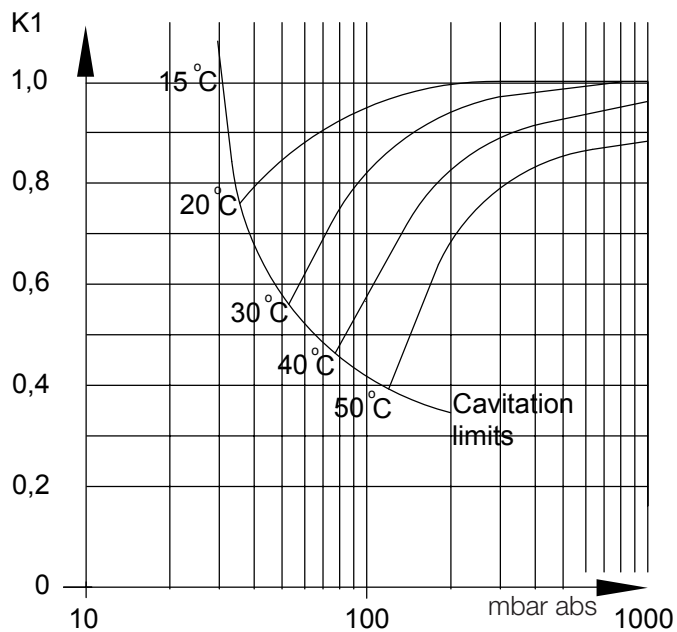


Air temperature 20°C  
 Sealing water temperature 15°C  
 Performance based on dry air at 1013 mbar absolute  
 Tolerance +/- 10%

KL400 POWER CONSUMPTION - VACUUM



CORRECTION FACTOR BASED ON SEALING LIQUID TEMPERATURE



$Q_t = Q_{15} * K$   
 Pump performance at temperature of sealing liquid higher than 15°C

## VACUUM OPERATION:

Performance and power consumption are based on a constant service liquid pressure at +/- 0.2 bar gauge.

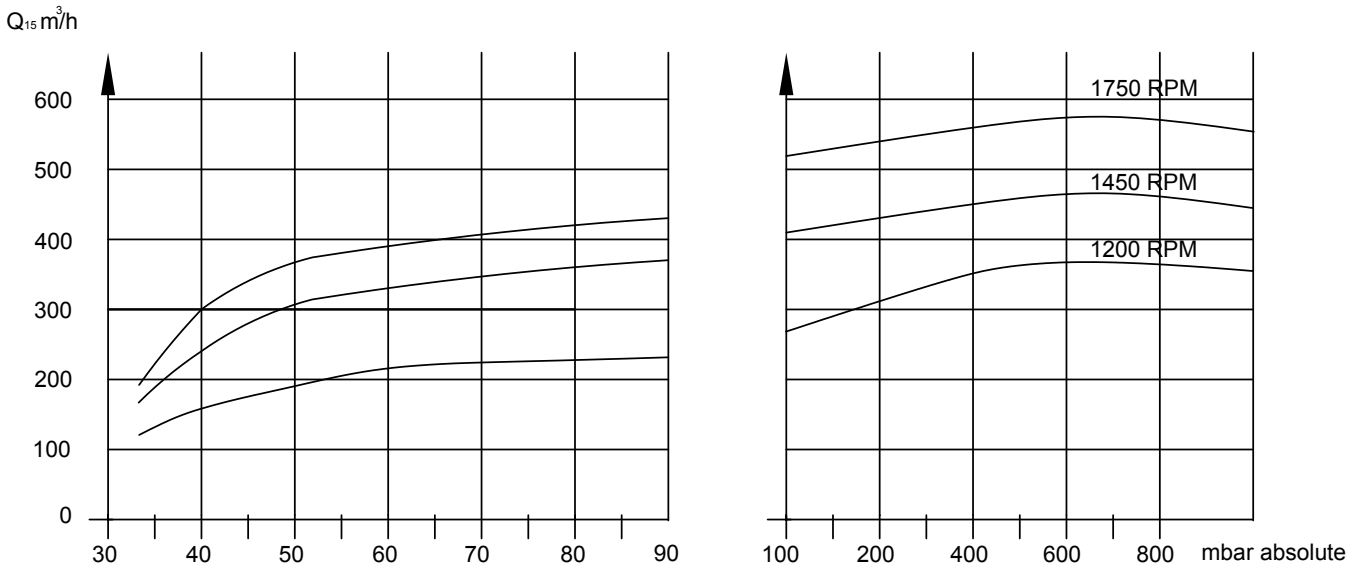
Deviations will affect the performance and power consumption.

Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be reused and will reduce the costs of operation.

If operating without liquid separator, the pump must be supplied with 0.2 m<sup>3</sup>/h as a minimum in considerations to lubrication and cooling of the mechanical shaft seals.

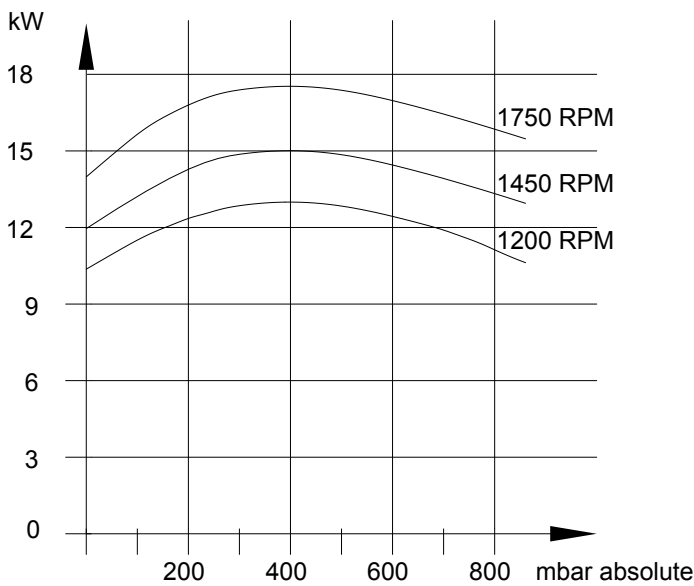
# KL500 - Vacuum performance

KL500 VACUUM PERFORMANCE - DRY AIR

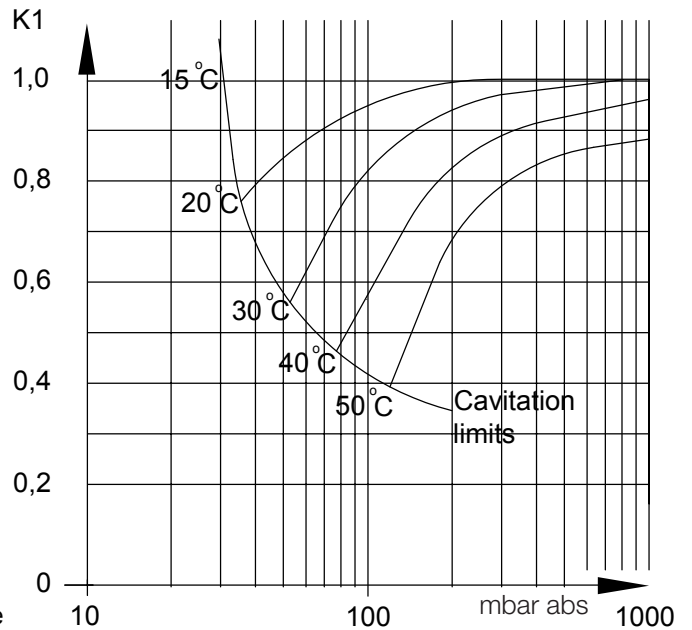


Air temperature 20°C  
 Sealing water temperature 15°C  
 Performance based on dry air at 1013 mbar absolute  
 Tolerance +/- 10%

KL500 POWER CONSUMPTION - VACUUM



CORRECTION FACTOR BASED ON SEALING LIQUID TEMPERATURE



$Q_1 = Q_{15} * K$   
 Pump performance at temperature of sealing liquid higher than 15°C

## VACUUM OPERATION:

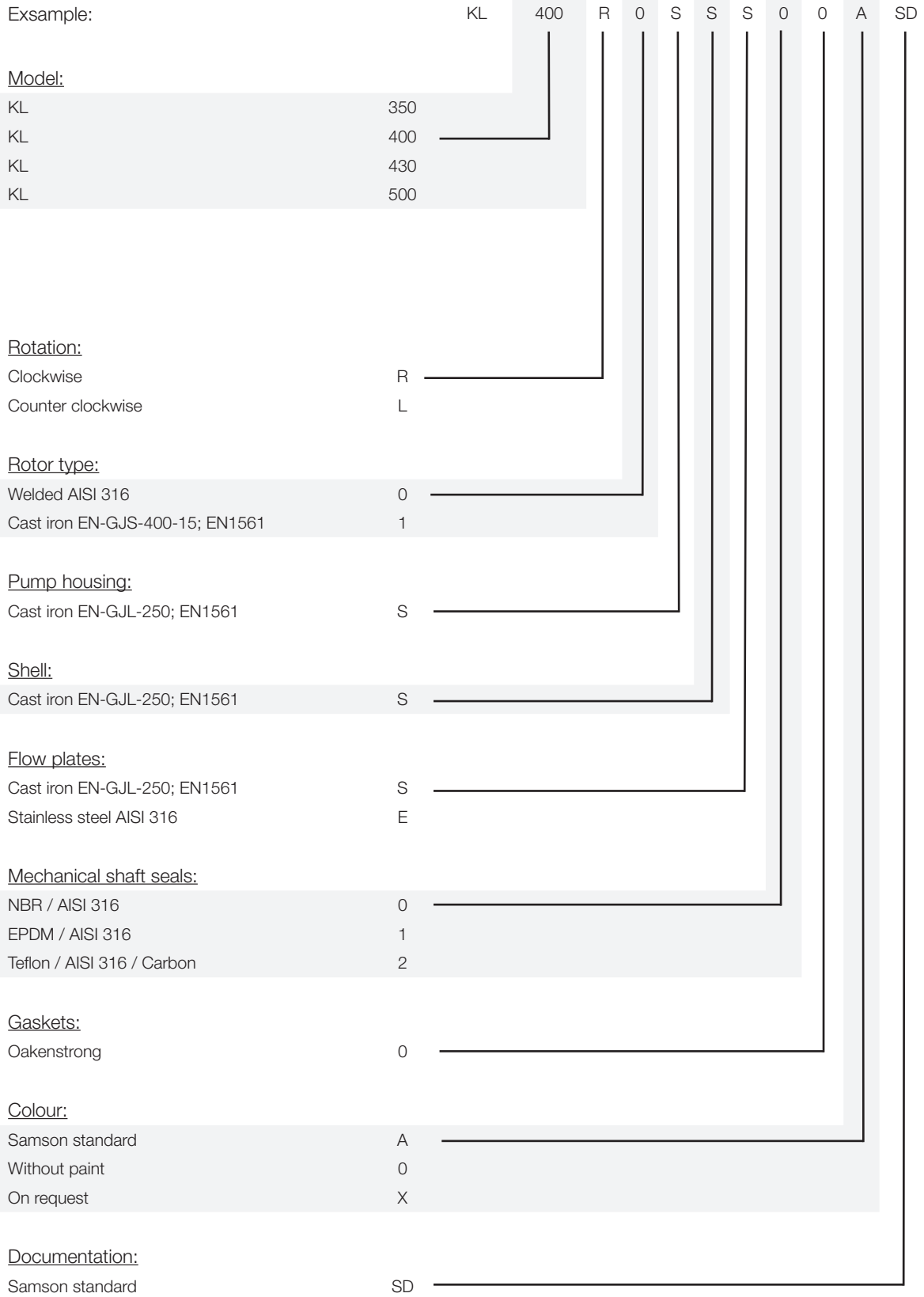
Performance and power consumption are based on a constant service liquid pressure at +/- 0.2 bar gauge. Deviations will affect the performance and power consumption. Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be reused and will reduce the costs of operation. If operating without liquid separator, the pump must be supplied with 0.2 m<sup>3</sup>/h as a minimum in considerations to lubrication and cooling of the mechanical shaft seals.

## ACCESSORIES

	KL350	KL400	KL430	KL500
Non return valve	—	—	—	—
Vacuum limiter	•	•	•	•
Service liquid valve	•	•	•	•
4-way valve	•	•	•	•
4-way valve with pneumatic actuator	•	•	•	•
Intermediate pipe for 4-way valve	•	•	•	•
Adaptor for hydraulic motor ISO	—	—	—	—
Adaptor for hydraulic motor SAE	—	—	—	—
Liquid separator	•	•	•	•
Temperature control, partial recovery	•	•	•	•
Temperature control, full recovery	•	•	•	•

Available = • Not available = —

**HOW TO ORDER KL**



Samson Pumps A/S  
Petersmindevej 21 Viborg  
DK-8800 Viborg

Phone | +45 87 50 95 70  
[www.samson-pumps.com](http://www.samson-pumps.com)

