



SAMSON LIQUID RING VACUUM PUMPS

KE-SERIES

DATASHEET KE-SERIES

Range: 33 mbar, absolute to 3.5 bar, gauge

Capacity: From 150 m³/h to 320 m³/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 local farmers.

Now with more than 40 years of experience in liquid ring vacuum pumps and 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 shipment 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 repaired pumps are tested to fulfill the original specifications.

Main markets

- Fish Industry
- Offshore
- Waste handling
- Food industry
- Truck building industry

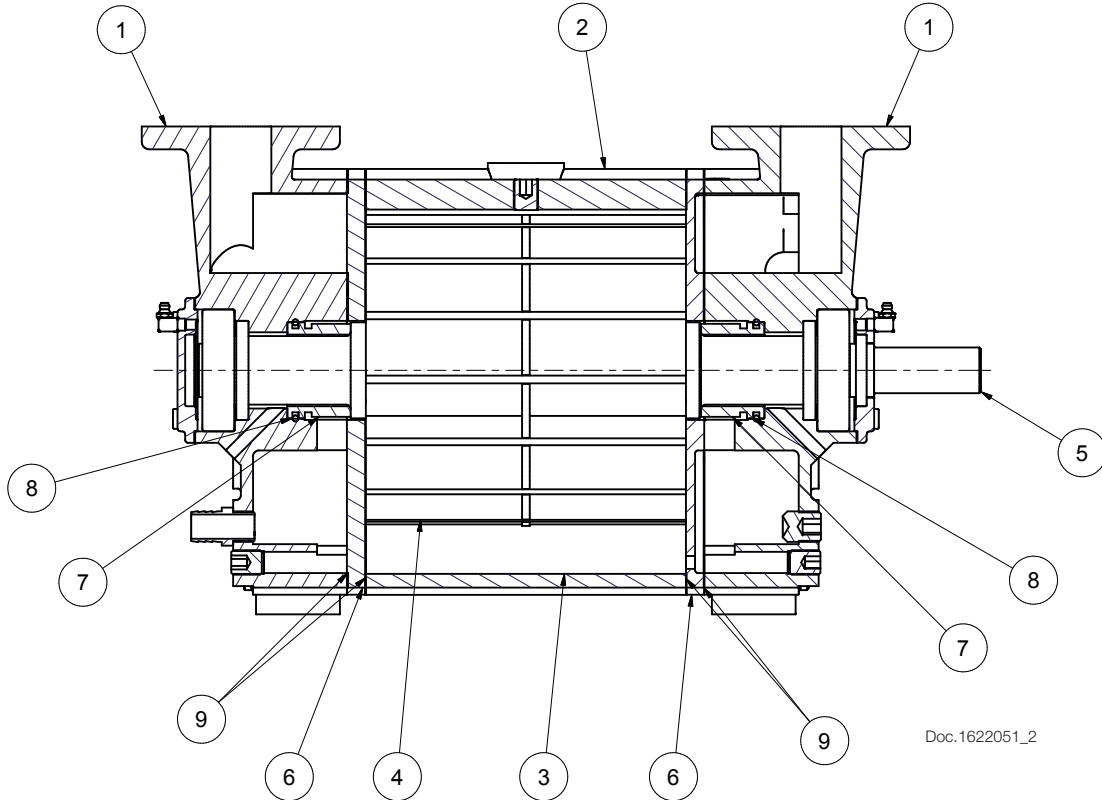
MATERIALS

| Position / Components | Material | | KE180 | KE200 | KE225 | KE300 |
|--------------------------|---------------------------------|------------------------|-------|-------|-------|-------|
| 1: Pump housing | Cast iron | EN-GJL-250; EN 1561 | • | • | • | • |
| 2: Branch pipes * | Cast iron | EN-GJL-250; EN1561 | • | • | • | • |
| 3: Shell | Cast iron | EN-GJL-250; En 1561 | • | • | • | • |
| 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 | • | • | • | • |
| | Stainless steel | AISI 316 | • | • | • | • |
| 7: Mechanical shaft seal | Stainless steel/NBR | EN 1.4301/NBR | • | • | • | • |
| 8: O-rings | Nitrile | NBR | • | • | • | • |
| | Ethylene Proylene Diene Monomer | EPDM | • | • | • | • |
| | VITON | FKM | • | • | • | • |
| 9: Gaskets | Paper gasket | Oil resistant | • | • | • | • |

Available = •

Not available = —

* = Build-in



KE SERIES

TECHNICAL DATA

| | | | KE180 | KE200 | KE225 | KE300 |
|--------------------------|--------------------------------|------------------------|---------------|-------|-------|-------|
| Weight | Ex. branch pipes | [kg] | — | — | — | — |
| | Incl. branch pipes * | [kg] | 79 | 82,5 | 85 | 89,5 |
| 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 = •

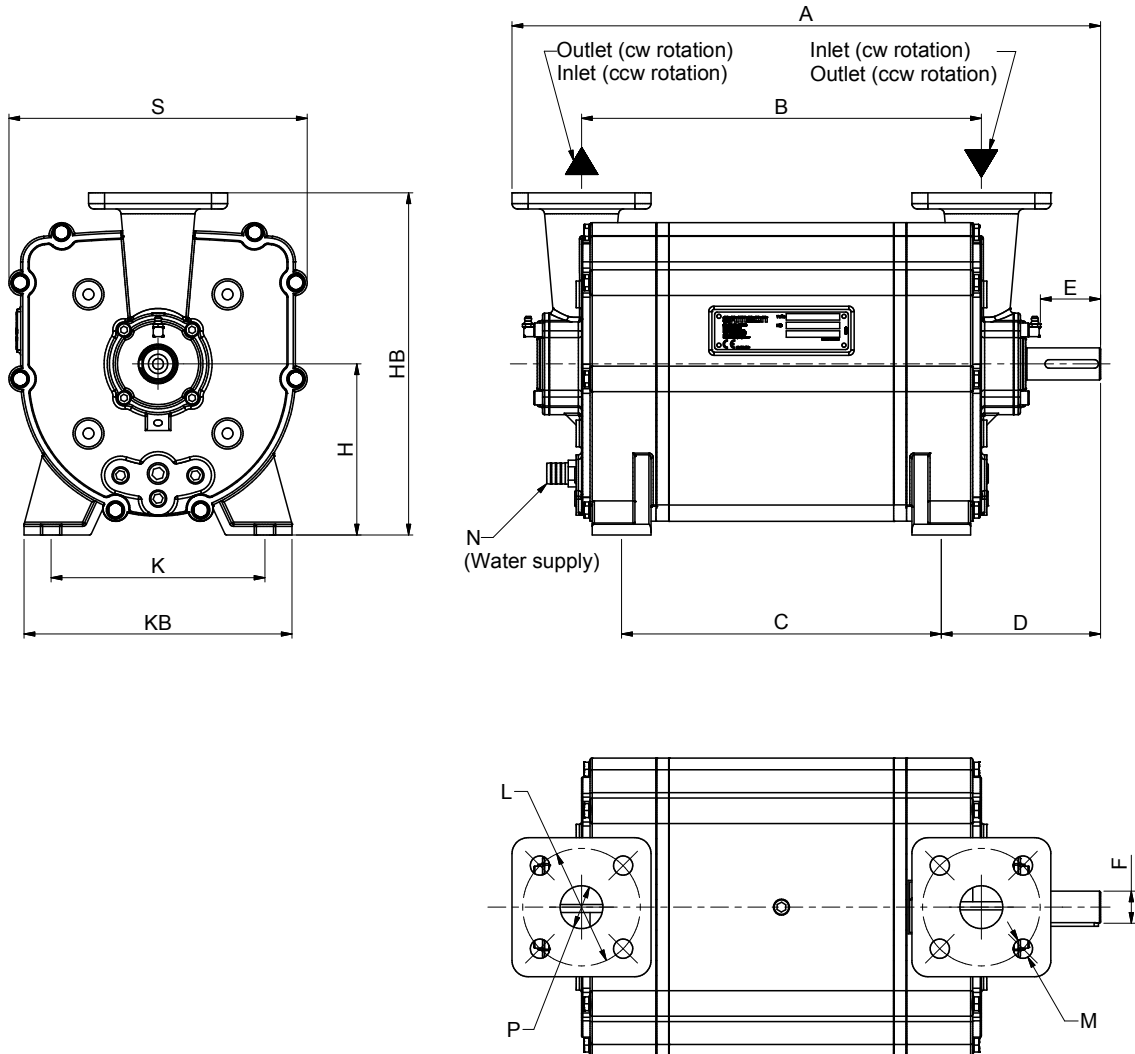
Not available = —

* = Build-in

KE SERIES

DIMENSIONS [mm]

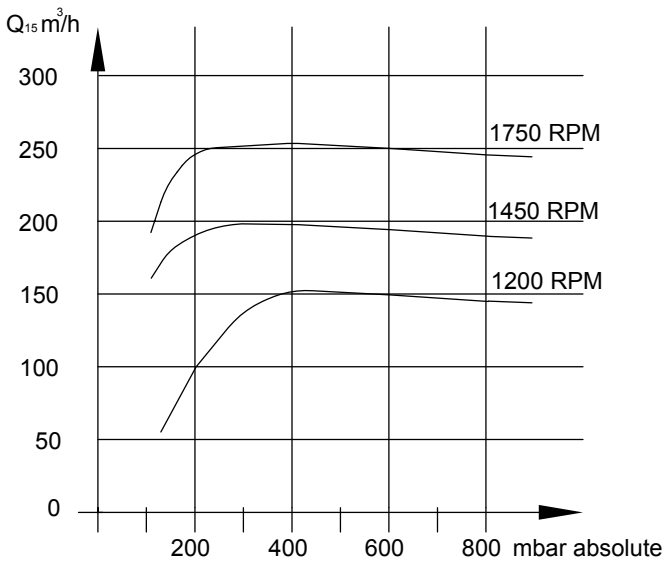
| Pump type | A | B | C | D | E | F | H | HB | K | KB | L | M | N | P |
|-----------|-----|-----|-----|-----|----|--------|-----|-----|-----|-----|------|-----|------------|-----|
| KE180 | 505 | 329 | 269 | 142 | 60 | Ø30/k6 | 160 | 320 | 251 | 200 | Ø125 | Ø18 | 1/2" / Ø16 | Ø40 |
| KE200 | 505 | 329 | 269 | 142 | 60 | Ø30/k6 | 160 | 320 | 251 | 200 | Ø125 | Ø18 | 1/2" / Ø16 | Ø40 |
| KE225 | 550 | 374 | 314 | 142 | 60 | Ø30/k6 | 160 | 320 | 251 | 200 | Ø125 | Ø18 | 1/2" / Ø16 | Ø40 |
| KE300 | 550 | 374 | 314 | 142 | 60 | Ø30/k6 | 160 | 320 | 251 | 200 | Ø125 | Ø18 | 1/2" / Ø16 | Ø40 |



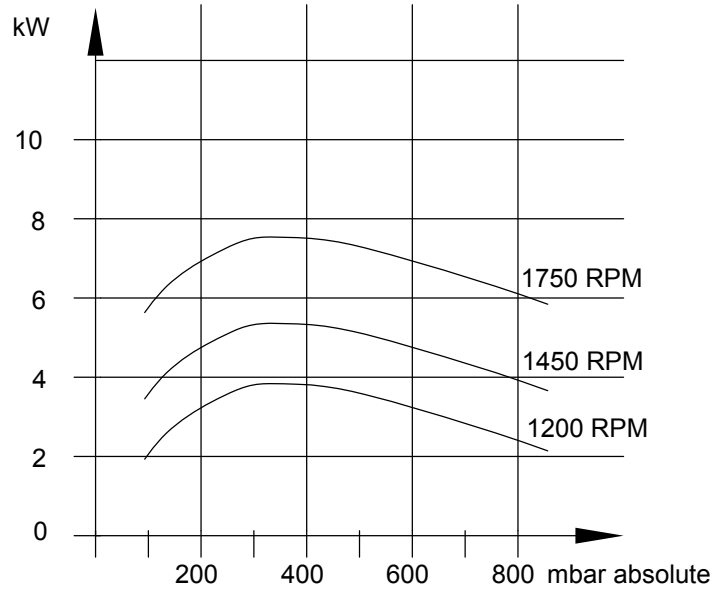
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KE180 - Vacuum performance

KE180 VACUUM PERFORMANCE - DRY AIR

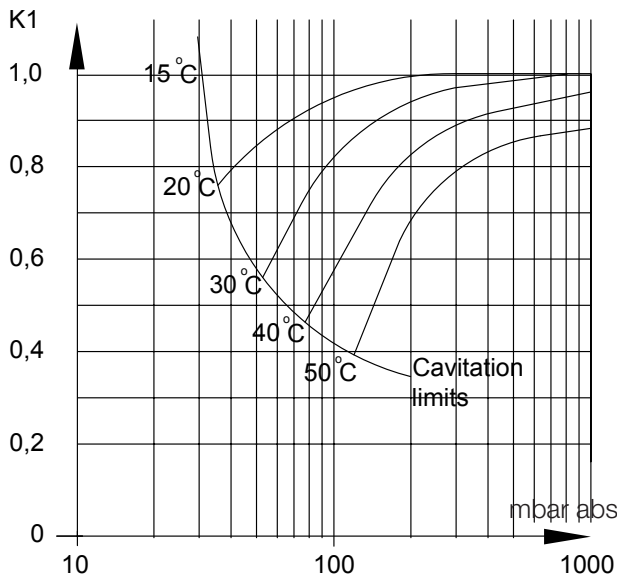


KE180 POWER CONSUMPTION - VACUUM



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



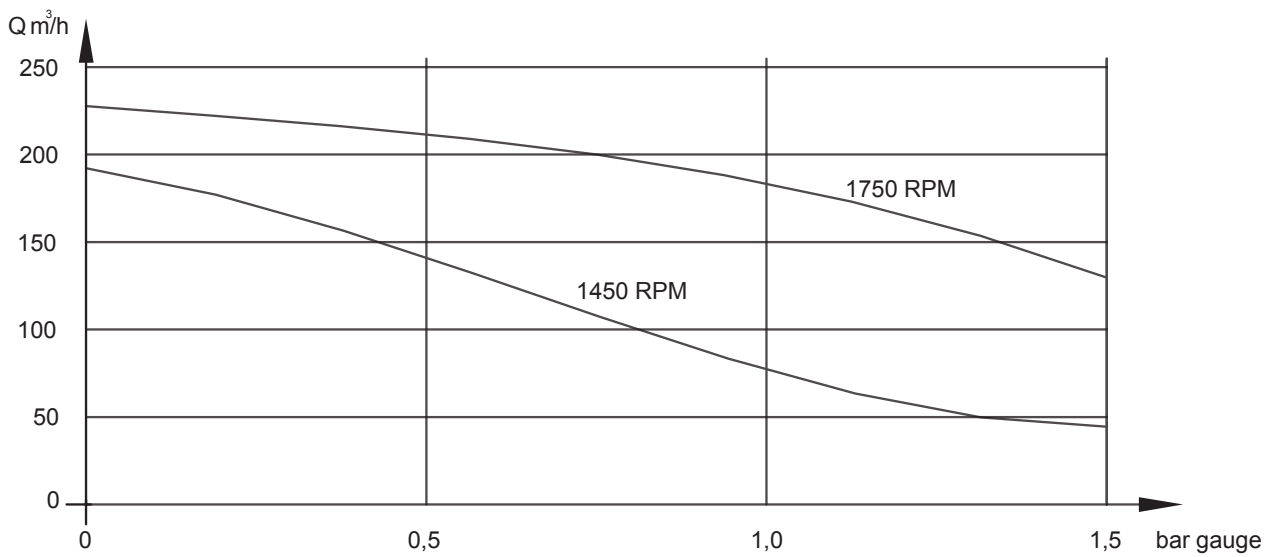
$Q_t = Q_{15} \cdot K$
 Pump performance at temperature of sealing liquid higher than 15°C

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.

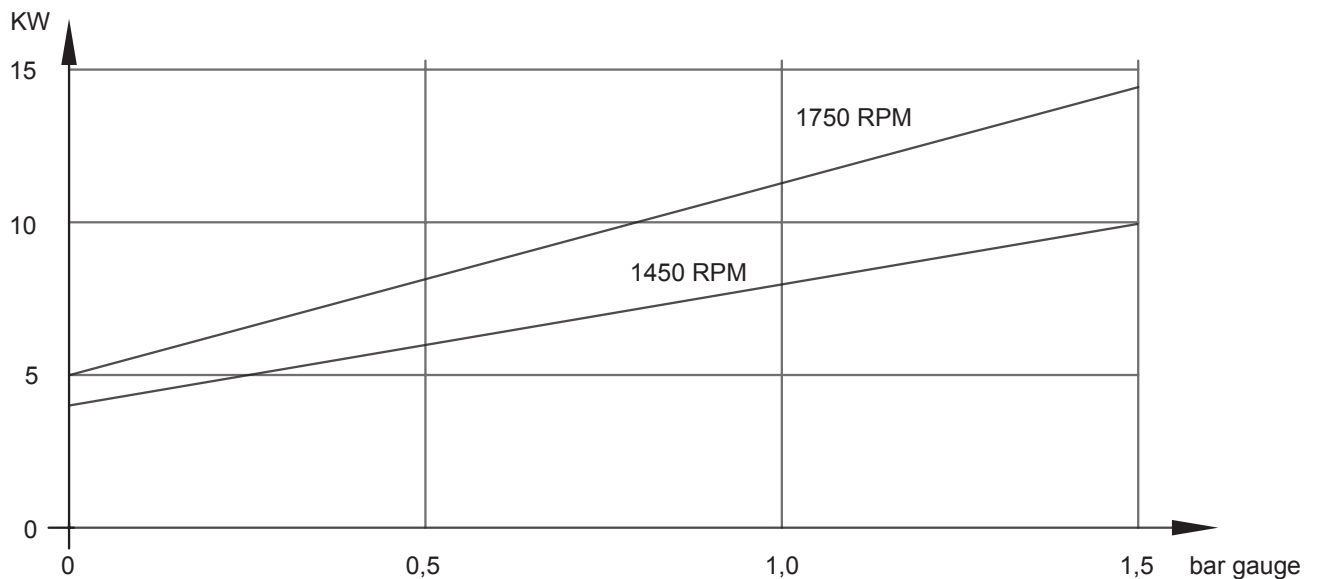
KE180 - Pressure performance

KE180 Pressure performance



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

KE180 Power consumption (pressure)



PRESSURE OPERATION:

Performance and power consumption are based on a constant service liquid flow at 1.5 m³/h.

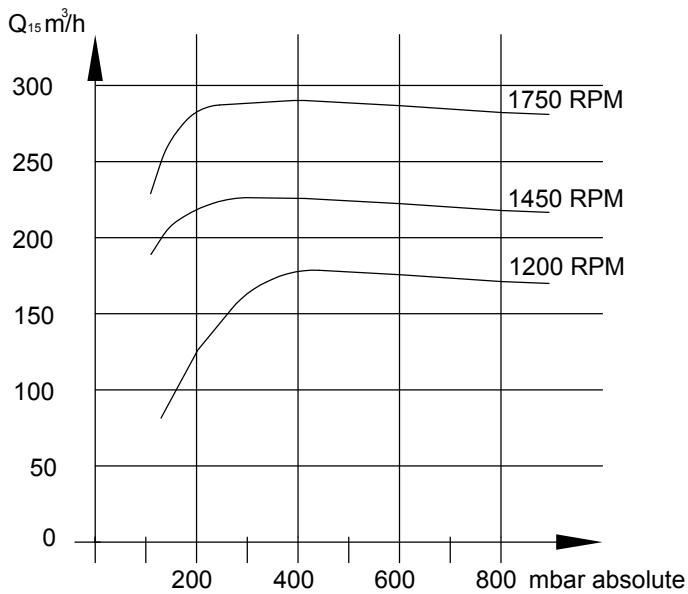
Deviations will affect the performance and power consumption.

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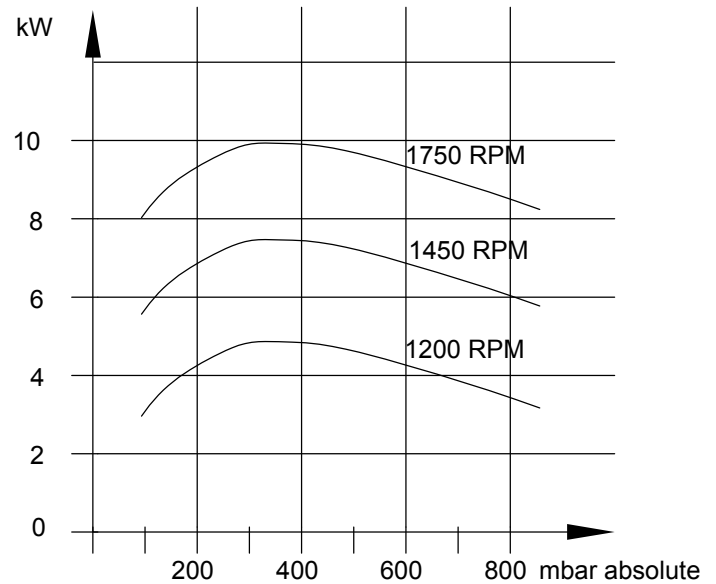
KE225 - Vacuum performance

KE225 VACUUM PERFORMANCE - DRY AIR

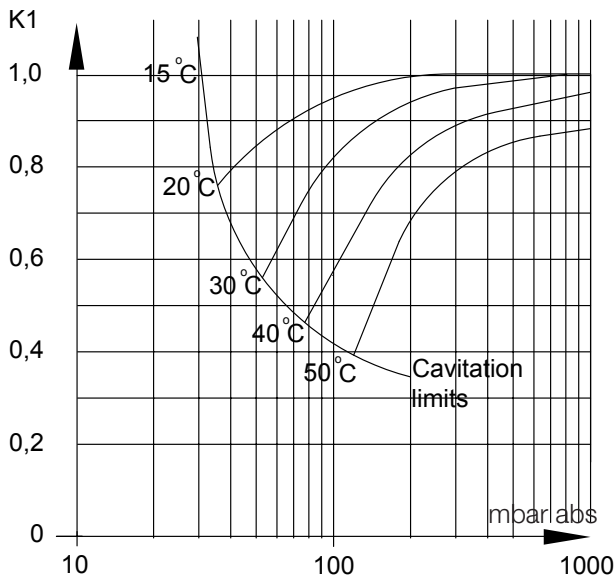


Air temperature 20°C
 Sealing water temperature 15°C
 Performance based on dry air at 1013 mbar absolute
 Tolerance +/- 10%

KE225 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

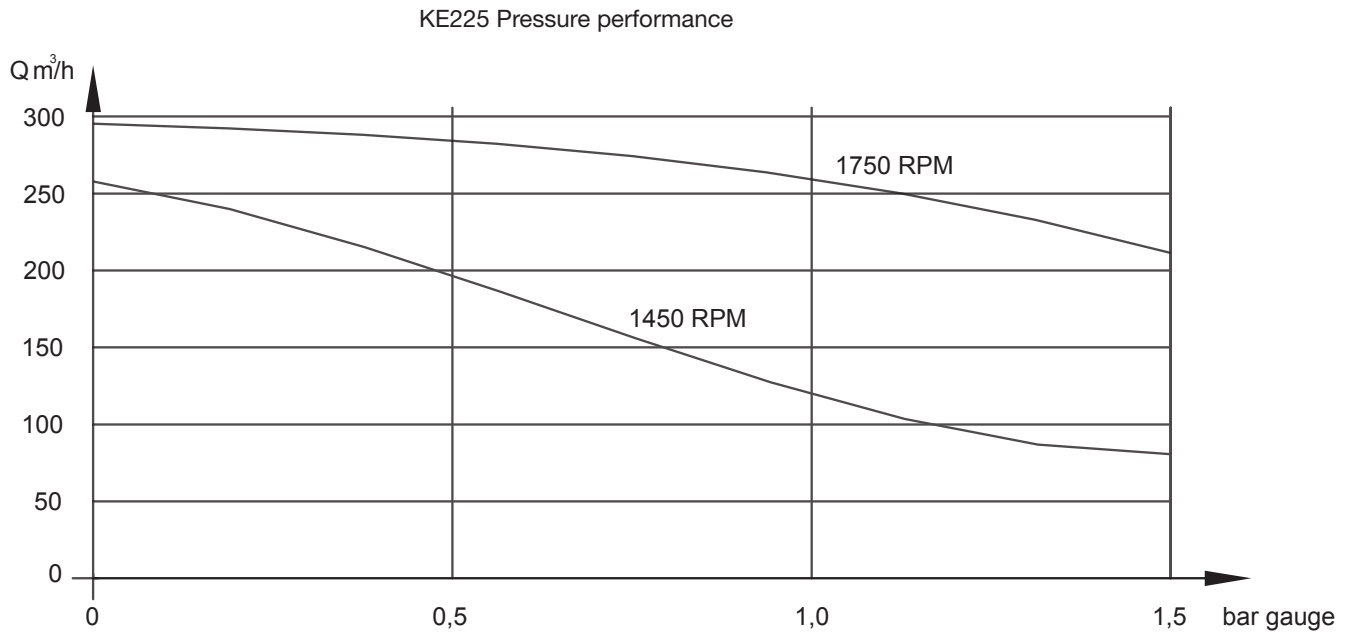
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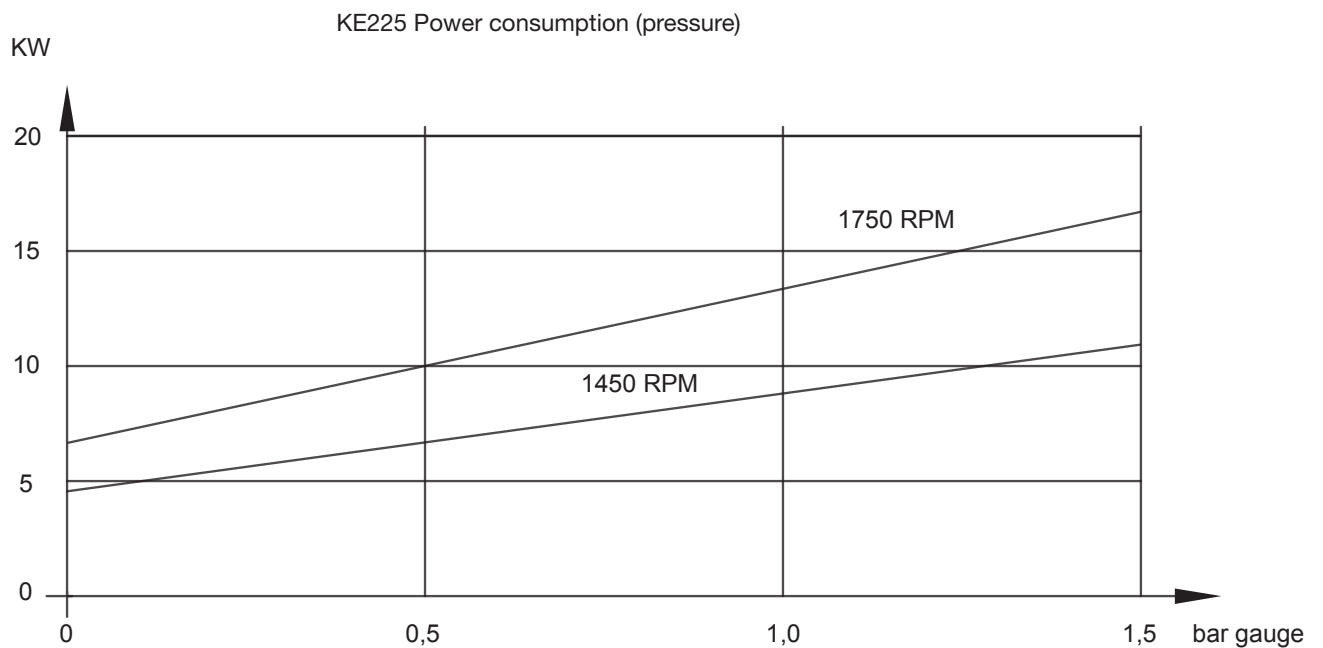
Using a liquid separator from Samson Pumps the amount of water will be regulated automatically depending on the operating pressure. At the same time the water will be reused and will reduce the costs of operation.

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.

KE225 - Pressure performance



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

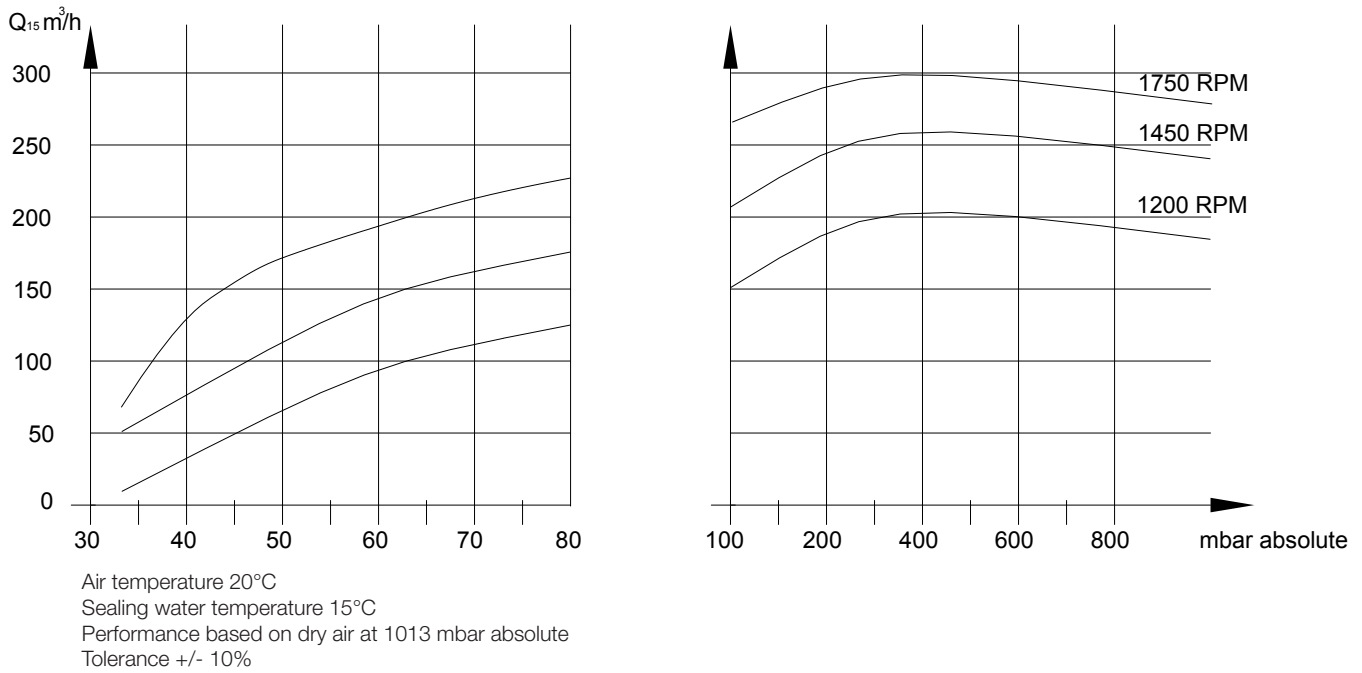


PRESSURE OPERATION:

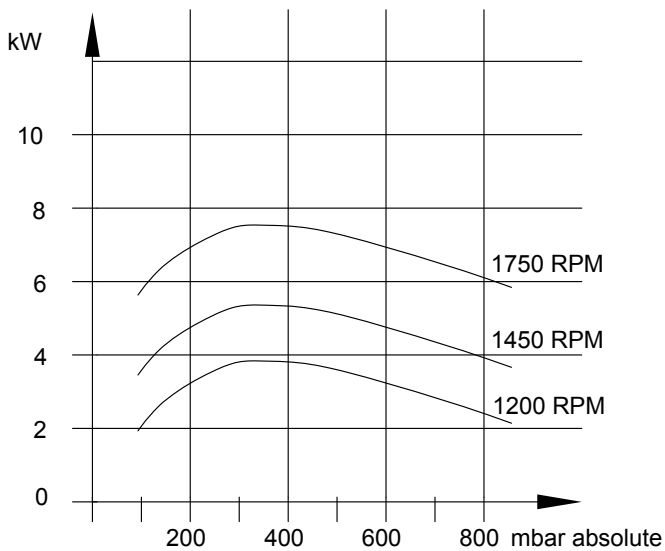
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KE200 - Vacuum performance

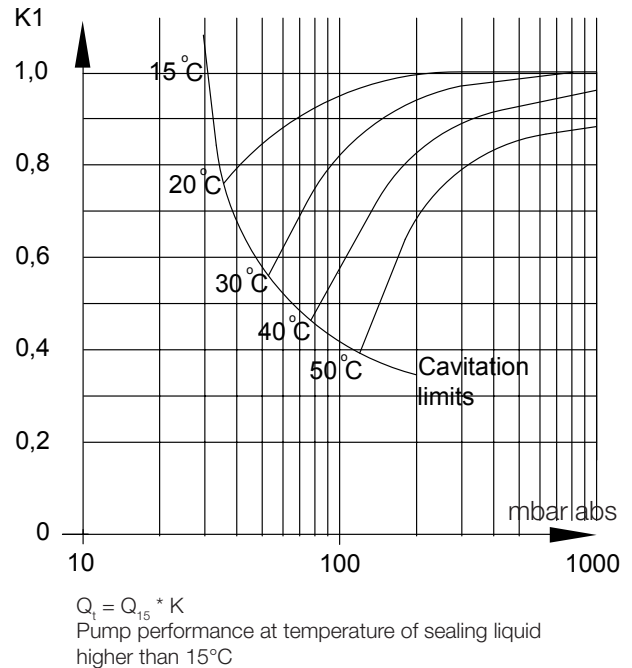
KE200 VACUUM PERFORMANCE - DRY AIR



KE200 POWER CONSUMPTION - VACUUM



CORRECTION FACTOR BASED ON SEALING LIQUID TEMPERATURE



VACUUM OPERATION:

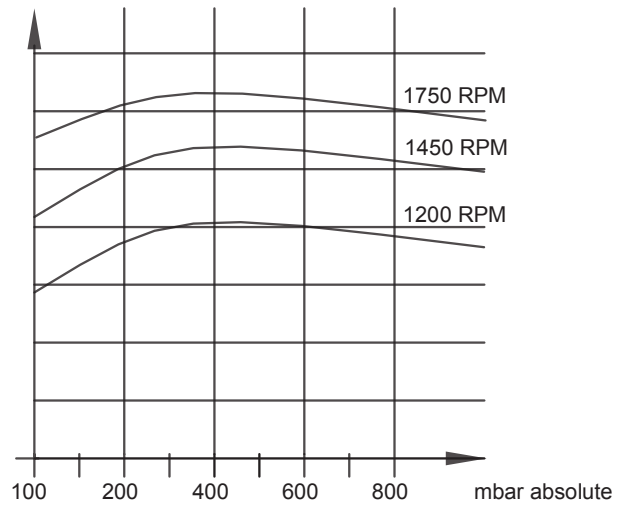
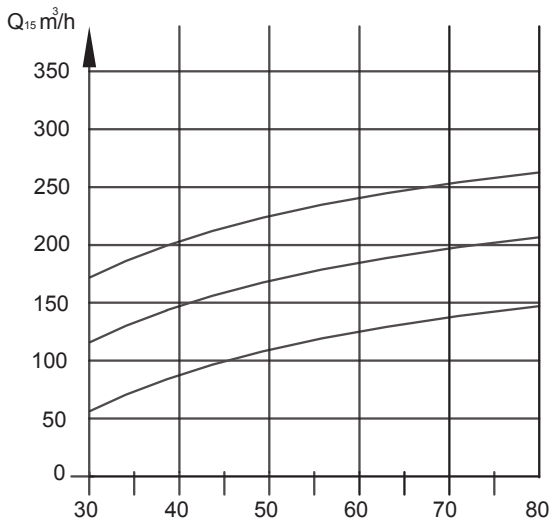
Performance and power consumption are based on a constant service liquid pressure at +/- 0.2 bar gauge. Deviations will affect the performance and power consumption.

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.

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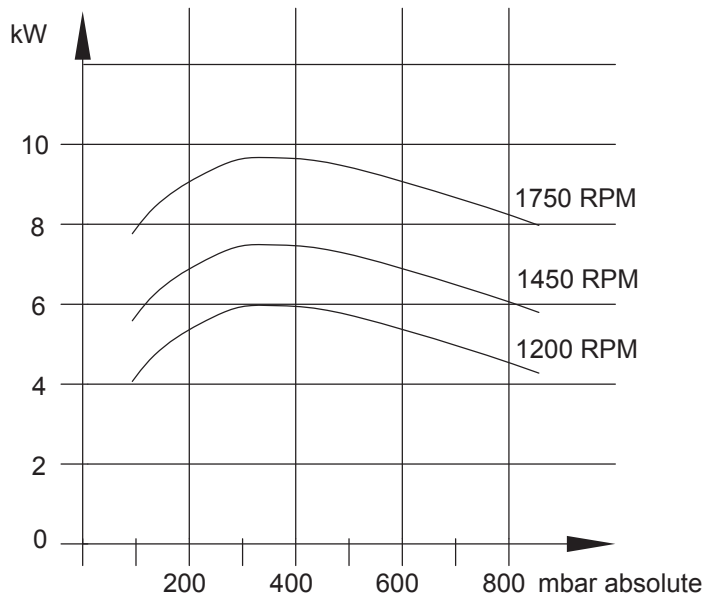
KE300 - Vacuum performance

KE300 VACUUM PERFORMANCE - DRY AIR

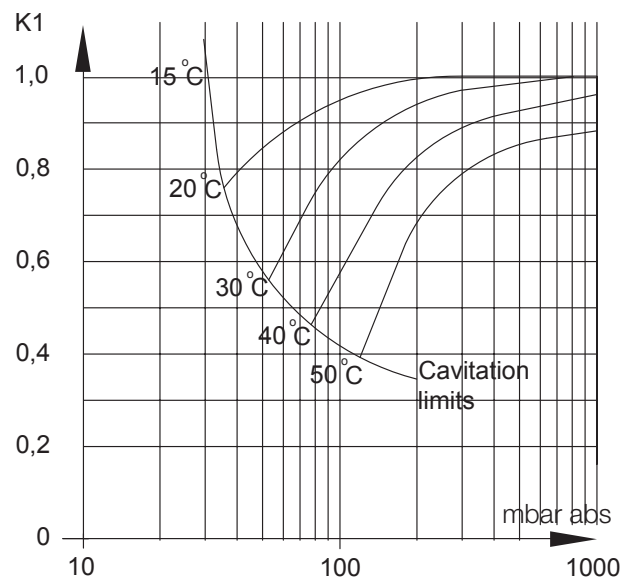


Air temperature 20°C
 Sealing water temperature 15°C
 Performance based on dry air at 1013 mbar absolute
 Tolerance +/- 10%

KE300 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.

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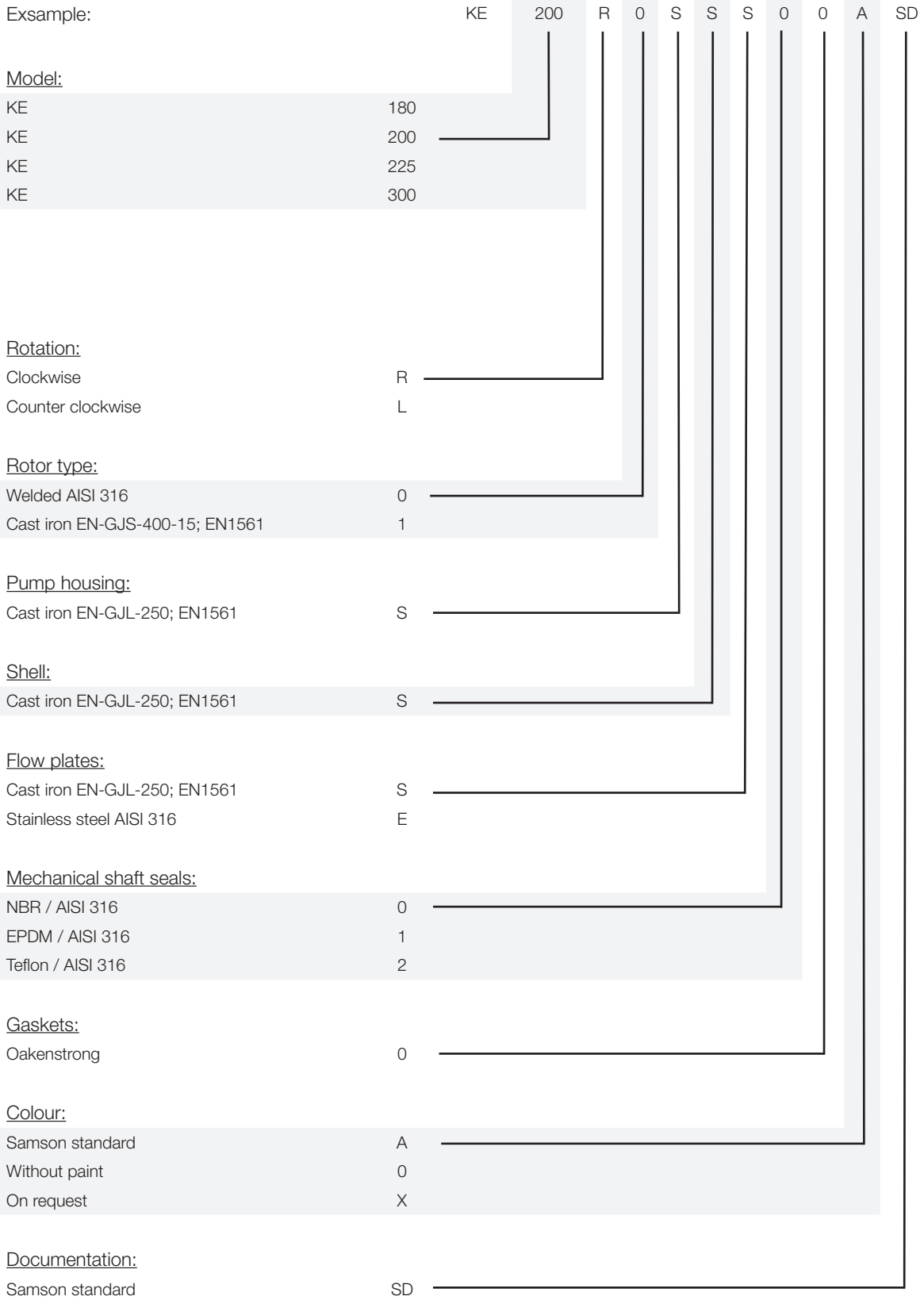
ACCESSORIES

| | KE180 | KE200 | KE225 | KE300 |
|---------------------------------------|-------|-------|-------|-------|
| 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 = —

KE SERIES

HOW TO ORDER KE



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www.samson-pumps.com

