

S Series Split Case Pump

Reference Data Sheet

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Revision	Rev. A
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Applicability	S series axially split double-suction pumps (GB/T 5657); KSB Omega replacement review
Issued by	ANSI Pumps Pro Jinan Yingsiman Machinery Co., Ltd

Status & use

- For preliminary screening and identification only. Final selection, dimensions and part supply are confirmed against size-specific reviewed documents issued with quotation.
- Series maximum values are ranges, not guarantees for every size and configuration. A single impeller trim covers a narrower band than the range shown for a size.
- Request the current revision before reuse: this file is superseded when a newer revision is published.
- GB/T 5657 is a technical-specification standard, not a dimensional interchange standard, and the Omega is built to KSB's own drawings, so no blanket interchangeability is claimed. Fit is decided dimension by dimension against the installed pump drawing.
- KSB and Omega are trademarks or product identifiers of KSB SE & Co. KGaA, used solely for identification and replacement-reference purposes. ANSI Pumps Pro is an independent, non-OEM manufacturer, not affiliated with, sponsored by or endorsed by KSB.

The S series is our single-stage, double-suction, axially split volute pump, built in compliance with GB/T 5657 (technical specifications for centrifugal pumps, Class III) and supplied as a non-OEM replacement and equivalent for KSB Omega-type installations in water works, HVAC circulation, power-station and industrial cooling water, irrigation, drainage and fire-fighting service. The casing is split along the shaft axis, so the upper half lifts off for inspection or rotor removal while the suction and discharge piping stay connected, and the double-entry impeller balances axial thrust hydraulically.

A replacement is decided at the interfaces, not on the duty point alone: flange sizes and rating, nozzle centrelines, shaft height, coupling and baseplate bolt pattern are matched to the installed pump drawing before a size is quoted. Where a dimension differs, a transition baseplate or spool piece is included in the quotation rather than left for site to discover.

Reference Envelope

Parameter	S series	Note
Discharge size	DN 80 to DN 800	52 size and speed combinations, 102 impeller variants in the standard tables
Capacity	To 11,600 m ³ /h	Catalogue envelope; the highest-flow variant, 800-840(I) at 725 r/min, is tabled to 11,700 m ³ /h
Head	To 200 m	Catalogue envelope; the standard size tables reach 170 m (350-700 at 1450 r/min)
Speed	2900 / 1450 / 960 / 725 r/min	2900 r/min (G versions) DN 80 to 125; 1450 r/min DN 80 to 400; 960 r/min DN 500 to 700; 725 r/min DN 800
Temperature	To 105 C	Standard construction
Working pressure	To 25 bar	Hydrostatic test pressure 37.5 bar
Impeller	Double-suction, between bearings	Axial thrust balanced hydraulically; standard and (I) flow-expanded profiles, trimmed to duty
Casing	Axially split volute	Upper half removable with the piping in place
Shaft seal	Mechanical seal or gland packing	Mechanical seal rated for 8,000 h leak-free running
Arrangement	Horizontal or vertical	Vertical OA / OB frames with the motor above the pump

These values are the catalogue envelope of the S series. Every quotation is confirmed on the size-specific curve at the actual speed and impeller trim, and the interface review below decides whether the size fits the existing foundation and pipework.

Four Interfaces Checked Before a Pump Is Built

01 Flanges and nozzle centrelines

Suction and discharge DN, rating and drilling, and the centreline heights and spacing are compared with the installed pump so the existing pipework is reused without spool changes.

02 Baseplate and foundation

Foundation bolt pattern, baseplate outline and anchor positions are matched, or a transition baseplate is designed; vertical OA / OB frames are checked against the existing pedestal.

03 Shaft height, coupling and driver

Shaft centre height, coupling type and spacing, direction of rotation and motor frame are confirmed when the driver is reused; a new motor is sized for the largest trim the duty may need.

04 Seal chamber and auxiliaries

Mechanical seal or packing, sleeve and gland dimensions, rinse and flush piping, and the Rp 3/8 gauge, vent and drain connections are listed against the existing pump.

Size Coverage by Speed

Model designation follows the catalogue. S 150-360 (I) G A reads as discharge DN 150; 360 the nominal impeller-diameter code (the tabled trims for size 150-360 run 274 to 355 mm); (I) flow-expanded impeller; G the 2900 r/min high-speed version; A the first impeller cut.

Size (DN-impeller)	Speed r/min	Capacity m3/h	Head m	Largest motor kW	Catalogue variants
80-210	1450	47-100	6.5-15	5.5	80-210, 80-210(I)
80-210	2900	91-197	27-60.5	37	80-210(G), 80-210(I)G
80-270	1450	53-125	10.8-24	11	80-270, 80-270(I)
80-270	2900	110-248	42-97.5	75	80-270(I)G, 80-270G
80-370	1450	53-136	17.5-41	22	80-370, 80-370(I)
100-250	1450	75-173	9.5-21.2	11	100-250, 100-250(I)
100-250	2900	150-346	37-83	90	100-250(I)G, 100-250G
100-310	1450	94-222	15-34	22	100-310, 100-310(I)
100-310	2900	182-440	60-135	200	100-310(I)G, 100-310G
100-375	1450	92-220	25-57	45	100-375, 100-375(I)
125-230	1450	156-328	6.8-17	18.5	125-230, 125-230(I)
125-230	2900	305-639	30-68	132	125-230(I)G, 125-230G
125-290	1450	138-323	11.3-29.2	30	125-290, 125-290(I)
125-290	2900	274-640	47-117	200	125-290(I)G, 125-290G
125-365	1450	158-360	20.9-50	75	125-365, 125-365(I)
125-500	1450	161-393	40-82	110	125-500, 125-500(I)
150-290	1450	265-531	9.8-24	37	150-290, 150-290(I)
150-360	1450	233-536	16.7-41.3	75	150-360, 150-360(I)
150-460	1450	260-618	28.2-71	132	150-460, 150-460(I)
150-605	1450	323-700	50-112	250	150-605, 150-605(I)
200-320	1450	412-834	14.2-34	75	200-320, 200-320(I)
200-420	1450	375-850	24-57	132	200-420, 200-420(I)
200-520	1450	478-980	38-97	315	200-520, 200-520(I)
200-670	1450	455-936	73-157.5	500	200-670, 200-670(I)
250-370	1450	680-1,260	16-44	160	250-370, 250-370(I)
250-480	1450	527-1,408	28.5-95.5	280	250-480, 250-480(I)
250-600	1450	640-1,490	56.5-126	560	250-600, 250-600(I)
300-300	1450	560-1,318	7.5-28.8	110	300-300, 300-300(I)
300-435	1450	1,066-2,012	24-60	315	300-435, 300-435(I)
300-560	1450	1,026-2,095	41-101.5	630	300-560, 300-560(I)
350-360	1450	950-2,077	9-37.5	200	350-360, 350-360(I)
350-430	1450	1,486-3,292	15-49.5	450	350-430, 350-430(I)
350-510	1450	1,555-3,132	30-80	630	350-510, 350-510(I)
350-620	1450	1,020-2,640	69-139	1,000	350-620(I)
350-700	1450	1,074-2,082	71.5-170	1,120	350-700, 350-700(I)
400-540	1450	1,110-3,420	33-98.5	900	400-540, 400-540(I)
400-620	1450	1,265-4,100	49.8-129.5	1,400	400-620, 400-620(I)
500-510	960	1,365-3,925	8-33	280	500-510, 500-510(I)
500-640	960	1,530-4,500	18-52.5	500	500-640, 500-640(I)
500-700	960	1,450-5,040	26.5-73	1,000	500-700, 500-700(I)
500-790	960	1,710-5,150	36-88.5	1,250	500-790, 500-790(I)

Size Coverage by Speed (continued)

Size (DN-impeller)	Speed r/min	Capacity m ³ /h	Head m	Largest motor kW	Catalogue variants
500-890	960	1,840-5,500	56-124	1,800	500-890, 500-890(I)
600-540	960	1,890-6,080	8.5-33.7	400	600-540, 600-540(I)
600-620	960	1,770-5,940	18-48	630	600-620, 600-620(I)
600-710	960	1,740-6,050	27-69	900	600-710, 600-710(I)
600-830	960	2,080-6,950	32-105	1,800	600-830, 600-830(I)
700-590	960	2,610-8,060	10-38.8	710	700-590, 700-590(I)
700-710	960	2,780-8,460	21-58.5	1,000	700-710, 700-710(I)
700-820	960	2,340-9,600	35.5-92	2,000	700-820, 700-820(I)
800-740	725	3,760-11,000	10.5-37.8	800	800-740, 800-740(I)
800-840	725	3,630-11,700	16.8-56.4	1,400	800-840, 800-840(I)
800-970	725	3,840-11,600	25-75.5	2,000	800-970

Ranges span the minimum and maximum catalogue points across all listed impeller diameters; a single trim covers a narrower band, and the (I) variant of a size runs at the same speed with a wider impeller. Duties outside the standard tables can be designed to order.

Materials, Seals and Bearings

Part	Standard options (GB grade)
Pump casing and cover	Grey cast iron HT250; ductile iron QT400-18; cast steel ZG230-450
Impeller	Tin bronze ZCuSn10Pb1; grey cast iron HT250; silicon brass ZCuZn16Si4; stainless steel ZG1Cr18Ni9Ti
Shaft	Stainless steel 2Cr13; carbon steel 45
Casing wear rings	Tin bronze ZCuSn10Pb1; grey cast iron HT250; silicon brass ZCuZn16Si4; stainless steel ZG1Cr18Ni9Ti
Seals and bearings	Mechanical seals from Burgmann or an equivalent domestic make, or gland packing with rinse piping; rolling bearings from SKF, NSK or an equivalent domestic make in housings at both shaft ends
Beyond the catalogue list	316 stainless (CF8M) and duplex CD4MCu wetted parts from our process-pump foundry programme, quoted case by case for corrosive or brackish duties

Standard tests are spectrometer and chemical analysis of castings, hydrostatic test, impeller balancing and a performance-curve test; EN 10204 3.1 certificates on request; witness tests and third-party inspection accepted. Material and seal selection is confirmed at quotation against the liquid, the temperature and the construction of the existing pump.

Supply Scope

Complete pump

Bare-shaft pump, or pump with motor, coupling, guard and baseplate as a complete unit, horizontal or vertical, tested on the factory curve before dispatch.

Replacement for an installed Omega-type pump

S series size selected from the installed duty and interfaces, with any transition baseplate or spool piece, confirmed against the installed pump drawing before order.

Replacement parts and assemblies

Impellers, shafts, shaft sleeves, casing wear rings, bearing housings, mechanical seals and packing sets, and complete rotating assemblies.

Reverse engineering

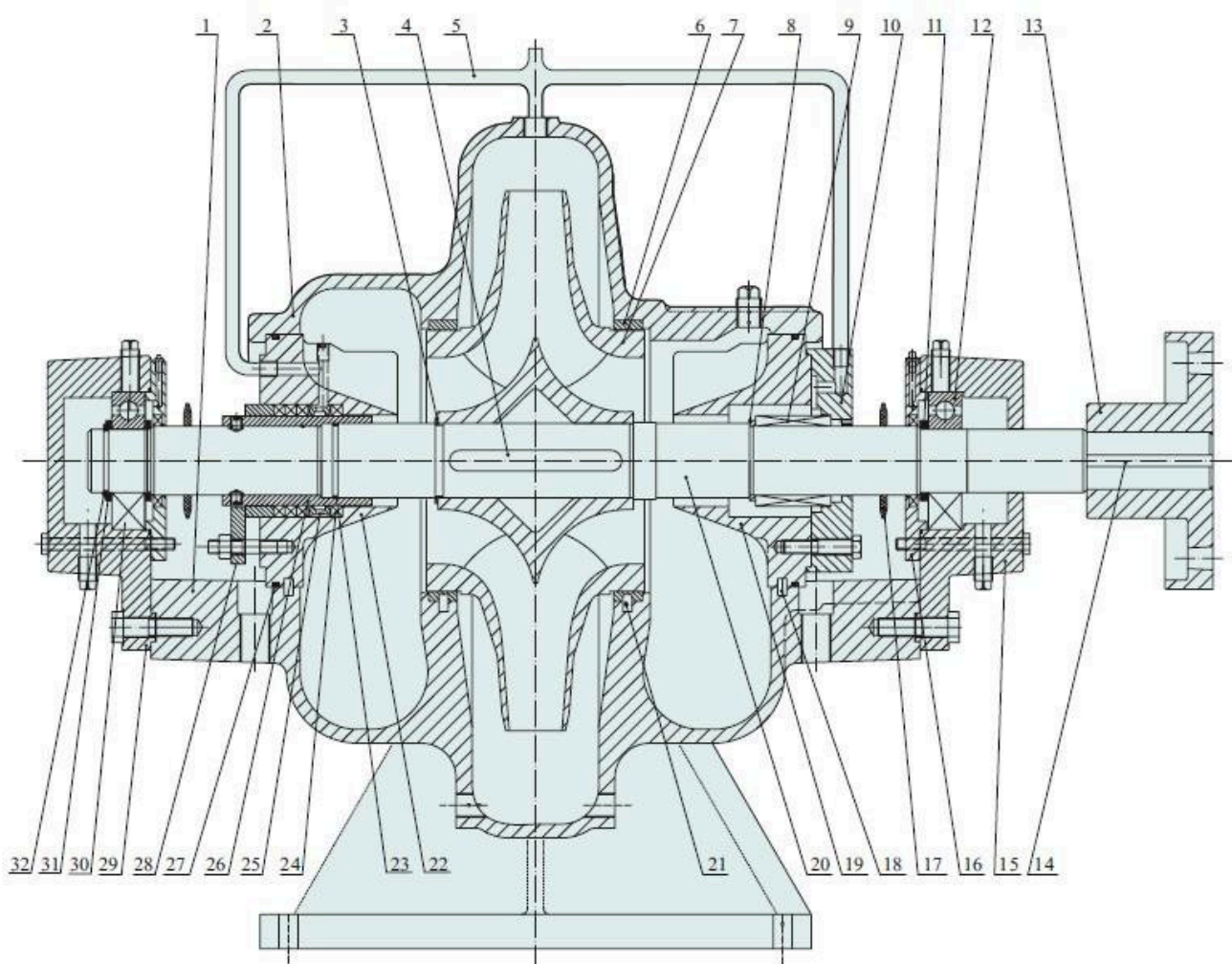
Worn or undocumented split case parts measured and re-drawn against the customer's sample, with the material confirmed by spectrometer analysis before casting.

Data that closes an enquiry in one cycle

Identification: existing pump make, model and size from the nameplate, serial number if available. Duty: flow, head, speed and NPSH available. Process: liquid, concentration, temperature, solids. Interfaces: GA drawing or site measurements of flange sizes, nozzle centrelines, shaft height and bolt pattern. Seal: mechanical seal or packing, flush plan if any. Driver: reuse or new, motor power, voltage, frame, coupling and rotation. Arrangement: horizontal or vertical. Quantity, documentation needs, destination and target delivery date. Anything unknown can be marked as unknown.

Sectional Drawing and Parts List

S-Series sectional drawing: double-suction impeller (7) on a between-bearings shaft (20), axially split casing (1) and pump cover (2), mechanical seal (9) or gland packing (22, 24-28) at each shaft passage, bearing bodies A and B (15, 29). Item numbers are the ones used in the parts list below.



Parts list, items 1 to 32

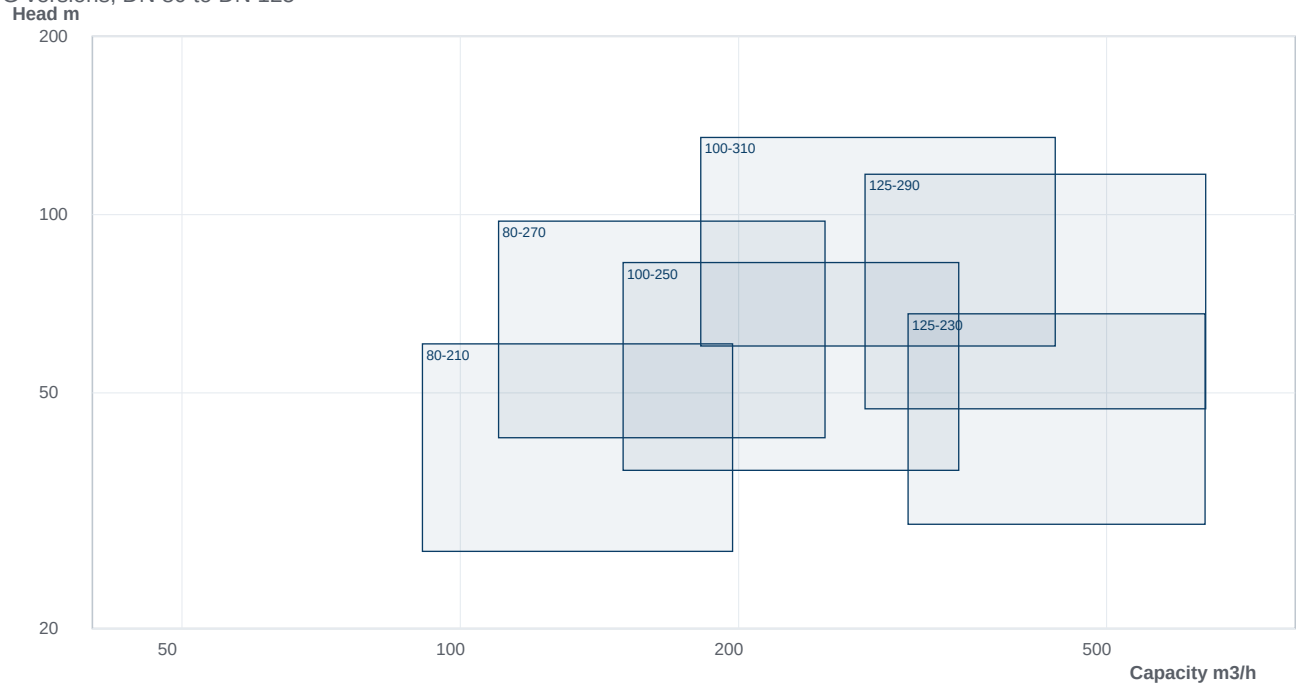
1	泵体	Pump casing	17	挡水圈	Water baffle
2	泵盖	Pump cover	18	圆柱销	Parallel pin
3	轴用弹性挡圈	Retaining ring, shaft	19	密封体 (机械密封用)	Seal body (mechanical seal)
4	键	Key	20	轴	Shaft
5	水冲洗管部件	Water-rinsing pipe assembly	21	圆柱销	Parallel pin
6	密封环	Seal ring	22	密封体 (填料密封用)	Seal body (gland packing)
7	叶轮	Impeller	23	O 型密封圈	O-ring
8	机封挡圈	Mechanical seal retaining ring	24	填料	Gland packing
9	机械密封	Mechanical seal	25	填料环	Lantern ring
10	机械密封压盖	Mechanical seal gland	26	填料轴套	Packing sleeve
11	轴用弹性挡圈	Retaining ring, shaft	27	O 型密封圈	O-ring
12	轴承	Bearing	28	填料压盖部件	Packing gland assembly
13	泵联	Coupling	29	轴承体乙	Bearing body B
14	键	Key	30	轴承	Bearing
15	轴承体甲	Bearing body A	31	轴承挡圈	Bearing retaining ring
16	轴承压盖	Bearing gland	32	轴用弹性挡圈	Retaining ring, shaft

Performance Coverage

Each rectangle is the flow and head area a size covers across all its tabled impeller diameters, drawn from the size table in this document. A single impeller trim covers a narrower band inside the rectangle. Both scales are logarithmic. These are coverage envelopes for screening, not performance curves: the quotation is confirmed on the size-specific curve at the actual speed and trim.

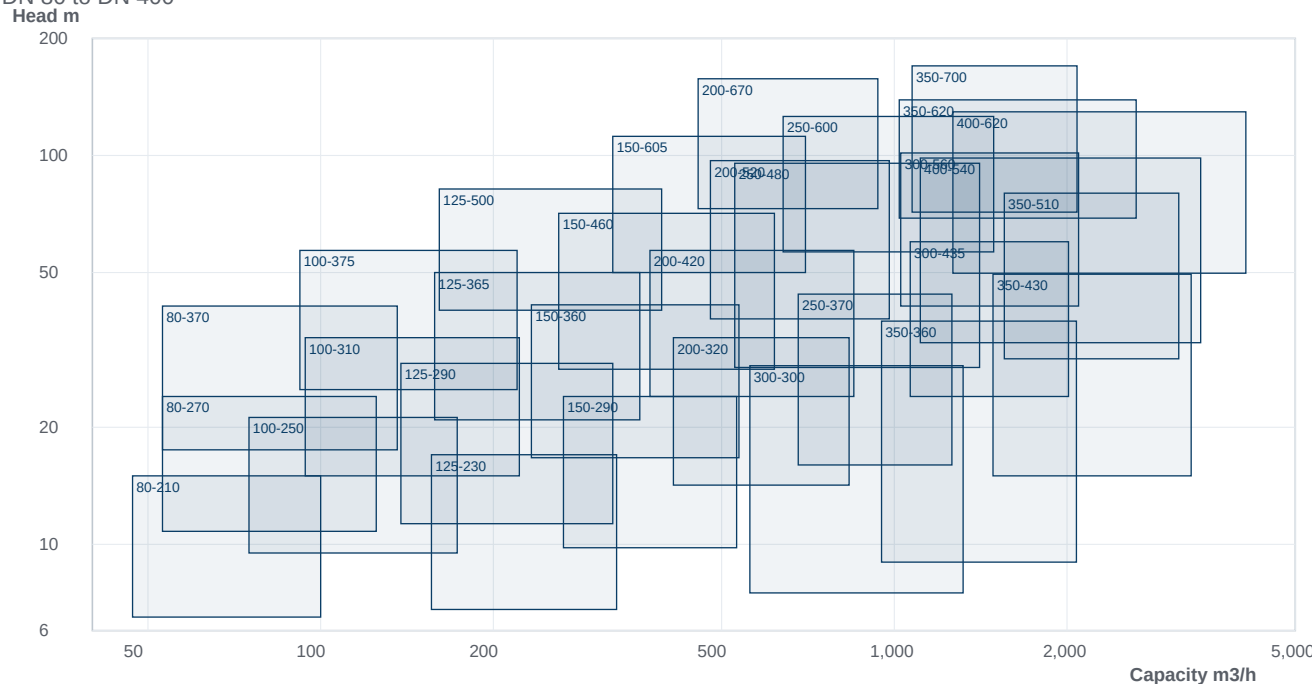
2900 r/min

G versions, DN 80 to DN 125



1450 r/min

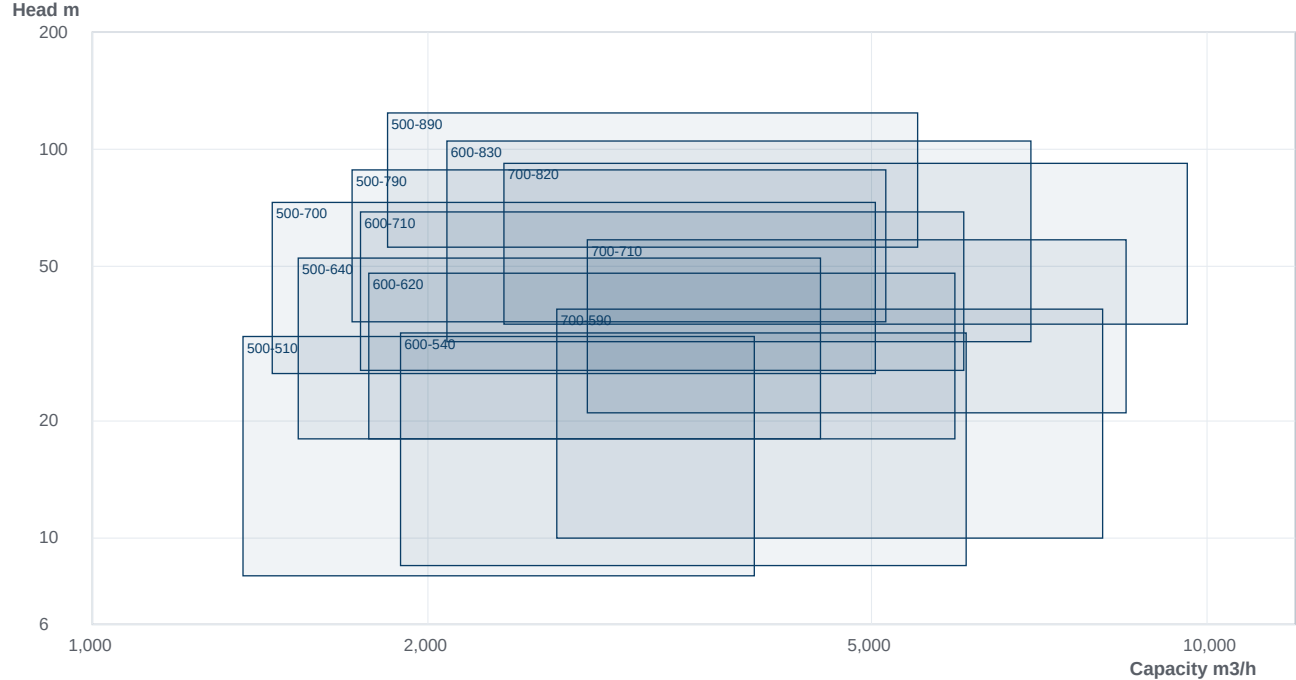
DN 80 to DN 400



Performance Coverage - Large Sizes

960 r/min

DN 500 to DN 700



725 r/min

DN 800



Vertical units: the same hydraulic end is available on OA and OB frames with the motor above the pump. Dimensions for a vertical unit are issued per size with the quotation and are not tabled here.

About this document

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Issued by

Jinan Yingsiman Machinery Co., Ltd (ANSI Pumps Pro) manufactures ANSI/ASME B73.1 chemical process pumps, ISO 5199/2858 and API 610 OH2 pumps, split case, multistage and vertical turbine pumps, and non-OEM replacement pumps and wet-end parts built to the same dimensional patterns. The company was registered in Jinan in 2018; its works in Zibo, Shandong has been in operation since 2010.

What this file contains

The reference envelope of the S series, the four interfaces checked before a replacement pump is built, the size and speed coverage of the standard programme (52 size and speed combinations), the standard material options, and the data needed to review an installed Omega-type pump.

How to use it

Use this file with the installed pump's general-arrangement drawing, or its nameplate and site measurements. The values here are catalogue ranges for screening; the quotation is confirmed on the size-specific curve at the actual speed and impeller trim, and every interface dimension is reported as matching or needing an adapter before order.

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Where to check the current revision

Product page, with the performance range charts and the full FAQ:

<https://ansipumpspro.com/products/split-case-pumps/>

Current reference document: <https://ansipumpspro.com/products/split-case-pumps/>

Selection guide: ansipumpspro.com/technical-resources/split-case-pump-selection-guide/

Technical resources and engineering support:

<https://ansipumpspro.com/technical-resources/>

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