

ZLND 32 - 125 ... 300 - 500

TECHNICAL DATA

Flow:	max. 1800 m ³ /h
Head:	max. 140 m
Speed:	max. 3600 rpm
Material:	cast iron (0B,0C,0E) and stainless steel (4B)
Temperature:	max. 170 °C depending on the shaft sealing and material execution.
Casing Pressure:	material design 4B PN 16 0B, 0C, 0E PN 16 / 10 ¹⁾ / 14 ²⁾
Shaft sealing:	mechanical seal or stuffing box
Flange connections:	material design 4B DIN 2501 PN 16 0B, 0C, 0E DIN 2501 PN 16 / 10 ³⁾
Direction of rotation:	clockwise when looking at the pump from the drive end.

APPLICATION

Volute casing pumps of the ZLN range (meeting DIN 24255 / EN 733 and ISO 9908) are used when clear or turbid liquids free from solid particles are to be pumped. Application areas for pumps in this range include:

Automobile, mechanical and general engineering industries
Food and beverage industry
Pharmaceutical industry
Paint industry
Plastic and rubber industry
Iron and non-ferrous metal industry
Paper and pulp industry
Textile industry
Building and construction industry
Heating and air conditioning
Drainage
Water supply
Irrigation

A range of materials is available to meet the specific needs of customers. For applications not covered by this pump range we offer the ISOchem range.

DESIGN

Horizontal, single-stage volute casing pumps with connections and main dimensions to DIN 24255 / EN 733, plus 19 additional sizes. The design of the pump allows the complete drive unit to be withdrawn from the casing without disturbing the attached pipe work. If a spacer type coupling is used, it is also unnecessary to disconnect the motor.

The range covers 50 sizes with only 5 different bearing brackets.

CONSTRUCTION

Casing pressure:

Material 4B:	max 16 bar from - 40 °C to +120 °C max 14 bar from 120°C up to +170 °C
Material 0B, 0C, 0E:	max 16/10 ¹⁾ /14 ²⁾ bar from - 20 °C to +120 °C max 14/9 ¹⁾ /8 ²⁾ bar from 120 °C up to +170 °C

Max. casing pressure= inlet pressure + delivery head at zero flow

Please note: The relevant technical regulations and safety rules must be observed.

Flanges location:

Axial suction flange, discharge flange radially upwards.

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Flanges:

Material design 4B: Complies with DIN 2543 PN 16
Material design 0B, 0C, 0E: DIN 2533 PN 16 / 2532 PN 10³⁾
Flanges drilled according to ANSI 150 can be supplied.

Bearings:

Bearing brackets 25, 35 and 45: Two ball bearings, lifetime greased (2Z), design code B, or oil lubrication, design code C.
Bearing brackets 55 and 65: One double row angular contact bearing on pump side, plus one ball bearing on drive side, grease lubricated S or oil lubricated T.
Oil lubrication configurations with CLO (Constant Level Oiler) can be supplied.

Shaft sealing:

Shaft sealing either by stuffing box or mechanical seal.

Code 041:	Self-sealed, uncooled packing rings
Code 052:	Uncooled packing rings, external sealing liquid
Code AF3:	Balanced mechanical seal, seal face materials SiC/Carbon, elastomer EPDM
Code BJ3:	Unbalanced bellows mechanical seal, seal face materials SiC/Carbon, elastomer EPDM
Code C23:	Unbalanced bellows mechanical seal, seal face materials SiC/Carbon, elastomer EPDM
Code AFS:	Balanced mechanical seal, seal face materials SiC/ SiC, elastomer FPM (Viton)
Code BJS:	Unbalanced bellows mechanical seal, seal face materials SiC/ SiC, elastomer FPM (Viton)
Code C2S:	Unbalanced bellows mechanical seal, seal face materials SiC/ SiC, elastomer FPM (Viton)
Code AFK:	Balanced mechanical seal, seal face materials SiC/carbon, elastomer FPM (Viton) double PTFE (Teflon) wrapped
Code BJJ:	Unbalanced bellows mechanical seal, seal face materials SiC/Carbon, elastomer FPM (Viton)
Code C2J:	Unbalanced bellows mechanical seal, seal face materials SiC/Carbon, elastomer FPM (Viton)
Codes AX3, AXS, AXK:	are equivalent to AF3, AFS, AFK plus quench
Codes AY3, AYS, AYK:	are equivalent to AF3, AFS, AFK plus heating
Code A93, A9S, A9K:	are equivalent to AF3, AFS, AFK plus external flushing

As an option, Code 051 (as 052, but with inlet and outlet) and other sealing execution can be supplied on request.

¹⁾ From 80-400 to 300-500 except 150-500

²⁾ 150-500

³⁾ 150-200, 150-250 and 200-250

Material design:

Item	Component	Material					Construction			
		Mat. N°	DIN denomination	ISO EN denomination	US Material		0B	0C	0E	4B
					ASTM Standard	AISI				
10.20	Volute casing	EN-JL 1040 1.4408	GG-25 GX6CrNiMo18 10	EN-GJL 250 GX5CrNiMo19-11-2	A 278 Cl. 30 A 351 CF8M	316	x	x	x	x
16.10	Casing cover	EN-JL 1040 1.4408	GG-25 GX6CrNiMo18 10	EN-GJL 250 GX5CrNiMo19-11-2	A 278 Cl. 30 A 351 CF8M	316	x	x	x	x
21.00	Shaft	1.0503 1.4021 1.4401	C 45 X 20 Cr13 X5CrNiMo17 12 2	C 45 X 20 Cr13 X5CrNiMo17 12 2	A 576 Gr1045 A 276 Type 420 A 167 Gr316	1045 420 316	x(*) x	x(*) x	x(*) x	x
23.00	Impeller	EN-JL 1040 2.1050 1.4408	GG-25 G-CuSn10 GX6CrNiMo18 10	EN-GJL 250 GX5CrNiMo19-11-2	A 278 Cl. 30 B 427 C91600 A 351 CF8M	316	x	x	x	x
33.00	Bearing bracket	EN-JL 1040	GG-25	EN-GJL 250	A 278 Cl. 30		x	x	x	x
52.30	Shaft sleeve / Mechanical seal	1.4021	X 20 Cr13	X 20 Cr13	A 276 Type 420	420	x	x	x	
52.40	Shaft sleeve / Stuffing box	1.4021 1.4401	X 20 Cr13 X5CrNiMo17 12 2	X 20 Cr13 X5CrNiMo17 12 2	A 276 Type 420 A 167 Gr316	420 316	x	x	x	x
46.10	Shaft seal / Stuffing box	Soft packing					x	x	x	x
43.30	Mechanical seal	Silicon Carbide / Carbon EPDM or Viton (See other options)					x	x	x	x

(*) Only in bearing brackets 55 and 65.

Casing gasket:

The casing is sealed by means of a confined flat gasket of EWP 210 material. Code of this design: 2

The casing is sealed by means of a confined flat gasket of PTFE. Code of this design: 4

Motor Power:

Using commercial electric motors, type of construction IM B3.

To determine the drive power we recommend the following safety margin:

Up to 4 kW: 25%

4 to 7,5 kW: 20%

above 7,5 kW: 15%

The following speeds must not be exceeded:

Size	max. speed rpm	Size	max. speed rpm	Size	max. speed rpm	Size	max. speed rpm
32125 32160 32200 40125 40160 40200 50125 50160 50200 65125 65160 65200 ¹⁾ 80160 ¹⁾ 80200 100160 100200	3600	32250 40250 50250 65250 80250 100250 ²⁾ 125200 ²⁾	3000	40315 ³⁾ 50315 ³⁾ 65315 80315 80400 100315 100400 125250 125315 125400 150200 150250 ⁴⁾ 150315 150400 200250	1800	150500 200315 200400 200500 250300 250315 250400 250500 300400 300500	1500

¹⁾ In material design 4B max. speed 3000 rpm

²⁾ In material design 4B max. speed 1800 rpm

³⁾ In material design 0E, and 4B max. speed 3000 rpm

⁴⁾ In material design 4B max. speed 1500 rpm

The max. speeds are derived from the permissible shaft loads and the permissible peripheral speeds of the impellers

Bearing bracket / pump size:

Bracket 25	32125 32160 32200 32250 40125 40160 40200 40250 50125 50160 50200 50250 65125 65160 65200 80160
Bracket 35	40315 50315 65250 65315 80200 80250 80315 100160 100200 100250 100315 125200 125250 150200 150250
Bracket 45	80400 100400 125315 125400 150315 150400 200250
Bracket 55	150500 200315 200400 200500 250300 250315
Bracket 65	250400 250500 300400 300500

General comments:

For horizontal volute pumps in CLOSE COUPLED construction with STANDARD motor for nominal performances and flange connections as per EN 733 refer to our series **ZLK**.

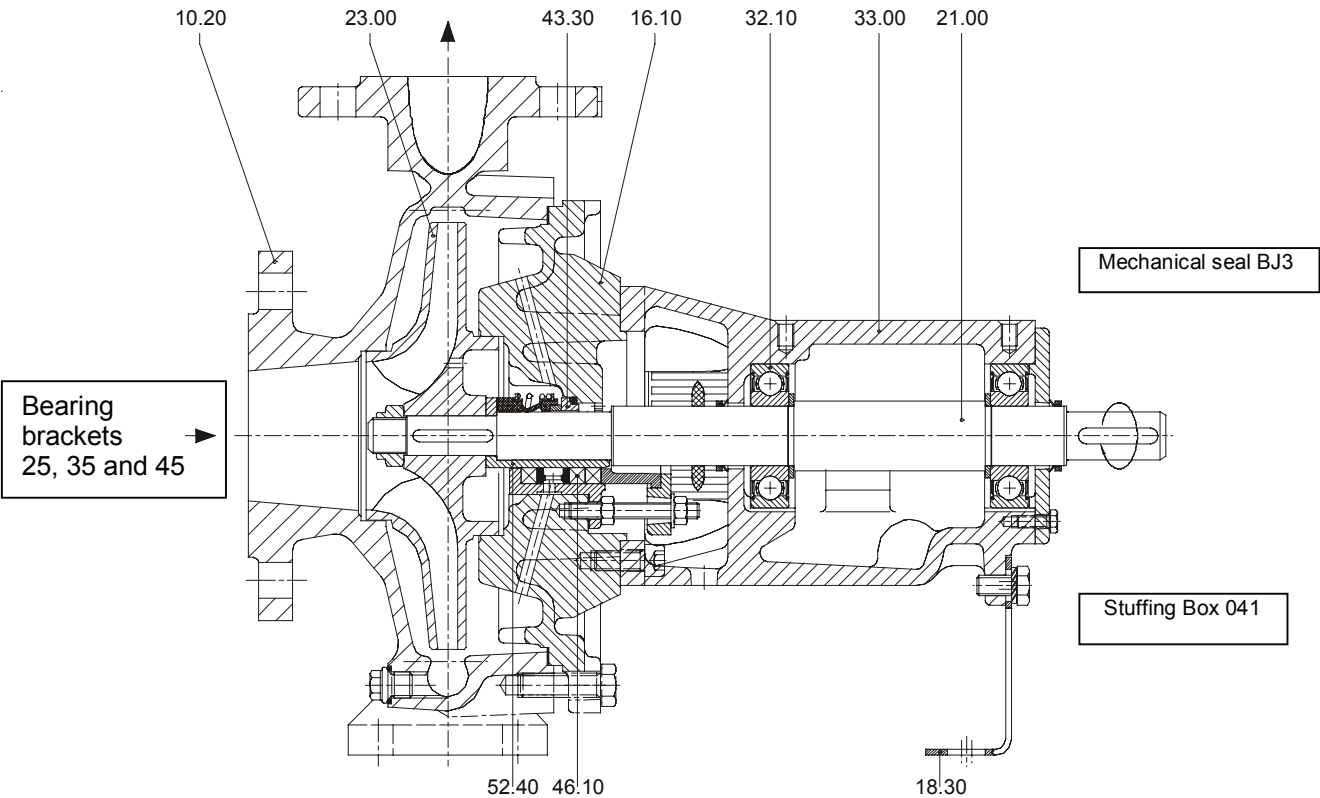
For INLINE pumps with the same drive unit, consisting of bearing bracket with bearing, stub shaft and mechanical seal, casing cover, impeller and impeller nut, refer to our series **ZLI** (supplied also with magnetic drive).

For equipping hot media systems a complete programme is available for a flow range between 1-1000 m³/h consisting of the range:

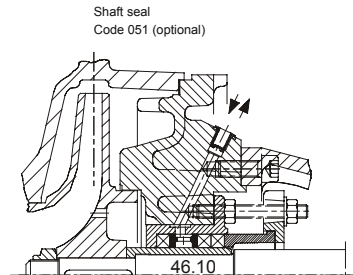
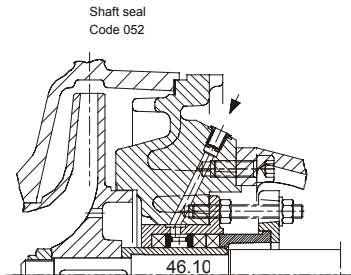
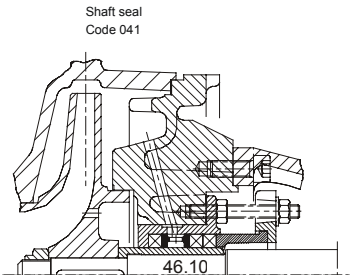
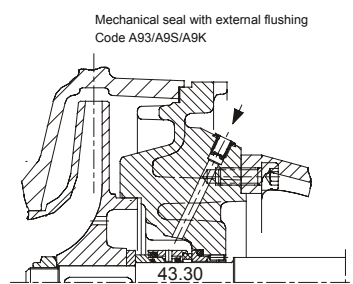
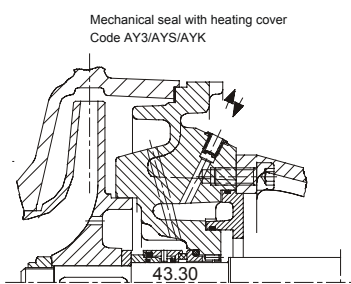
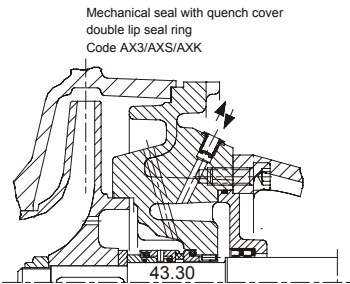
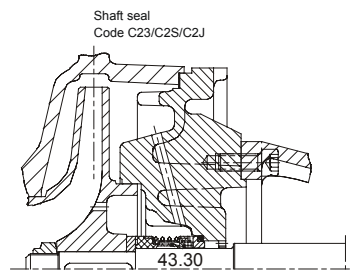
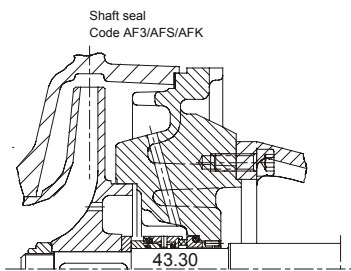
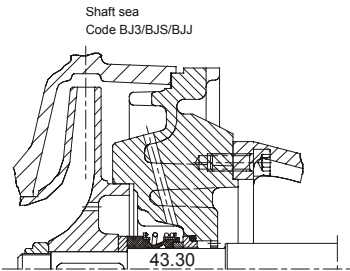
ZTN	volute pumps to EN 733 design with base plate t _{max} 350 °C PN 16. Heat transfer oil.
ZTK	volute pumps to EN 733 close coupled design t _{max} 350 °C PN 16. Heat transfer oil.
ZTI	volute pumps to EN 733 as INLINE construction (up to t _{max} 400 ⁰ °C with magnetic drive) PN 16. Heat transfer oil.
ZEN	volute pumps to EN 22858, t _{max} 230 °C PN 40. Hot water design.
ZDN	volute pumps to EN 22858, t _{max} 185 °C PN 25. Hot water design.
ZHN	volute pumps to EN 733, t _{max} 180 °C PN 16. Hot water design.
ZLI	volute pumps to EN 733 as INLINE construction, t _{max} 150 °C PN 25. Hot water design.

Designs are subject to amendment without prior notice.

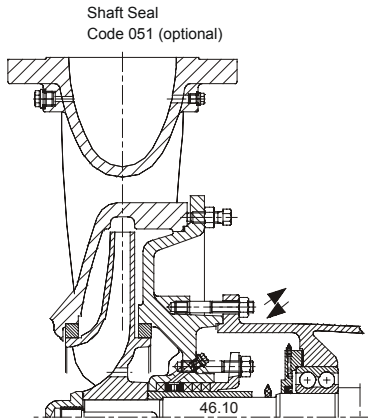
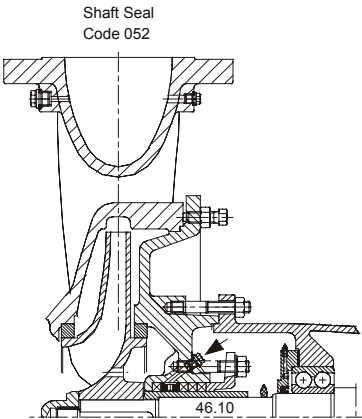
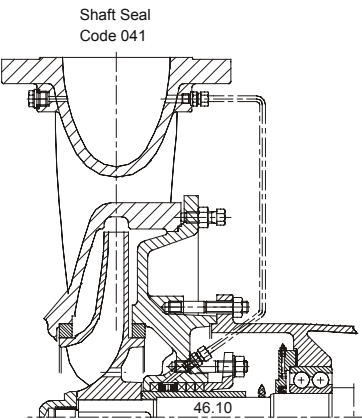
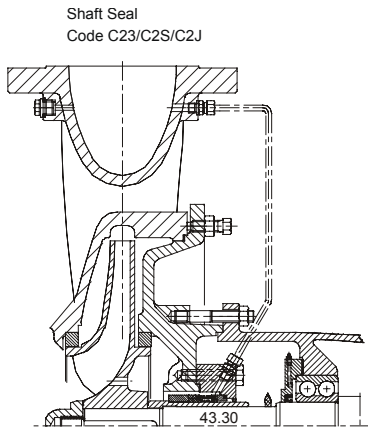
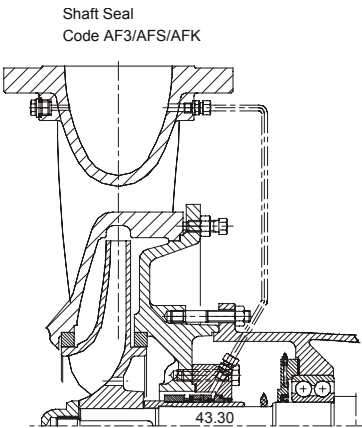
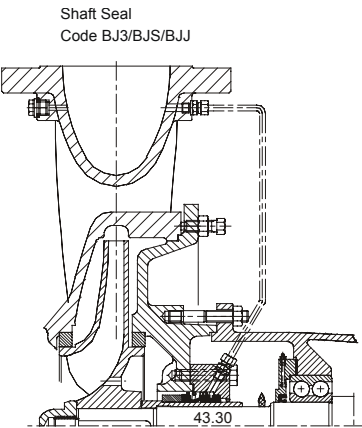
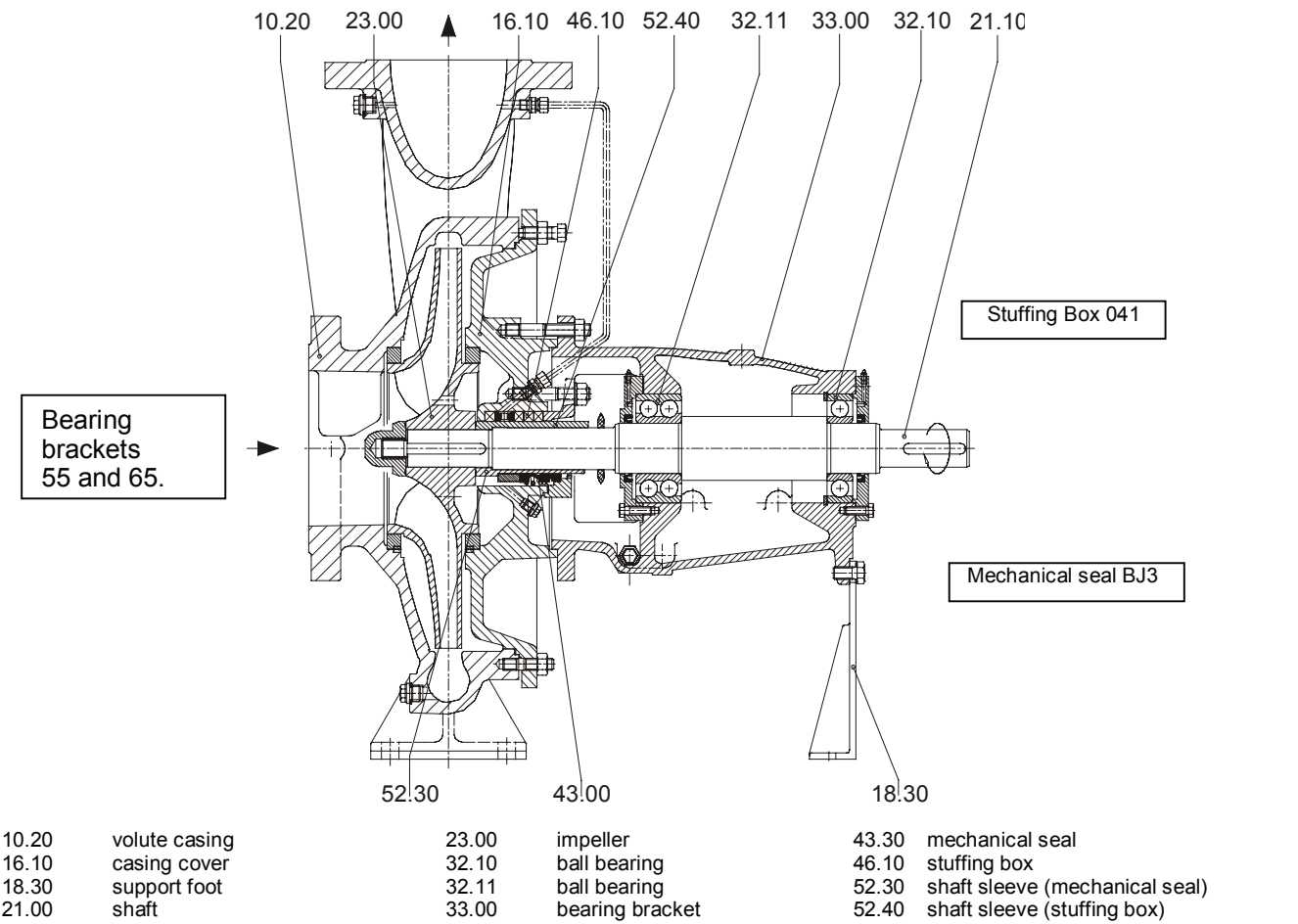
SECTIONAL DRAWING AND NOMENCLATURE



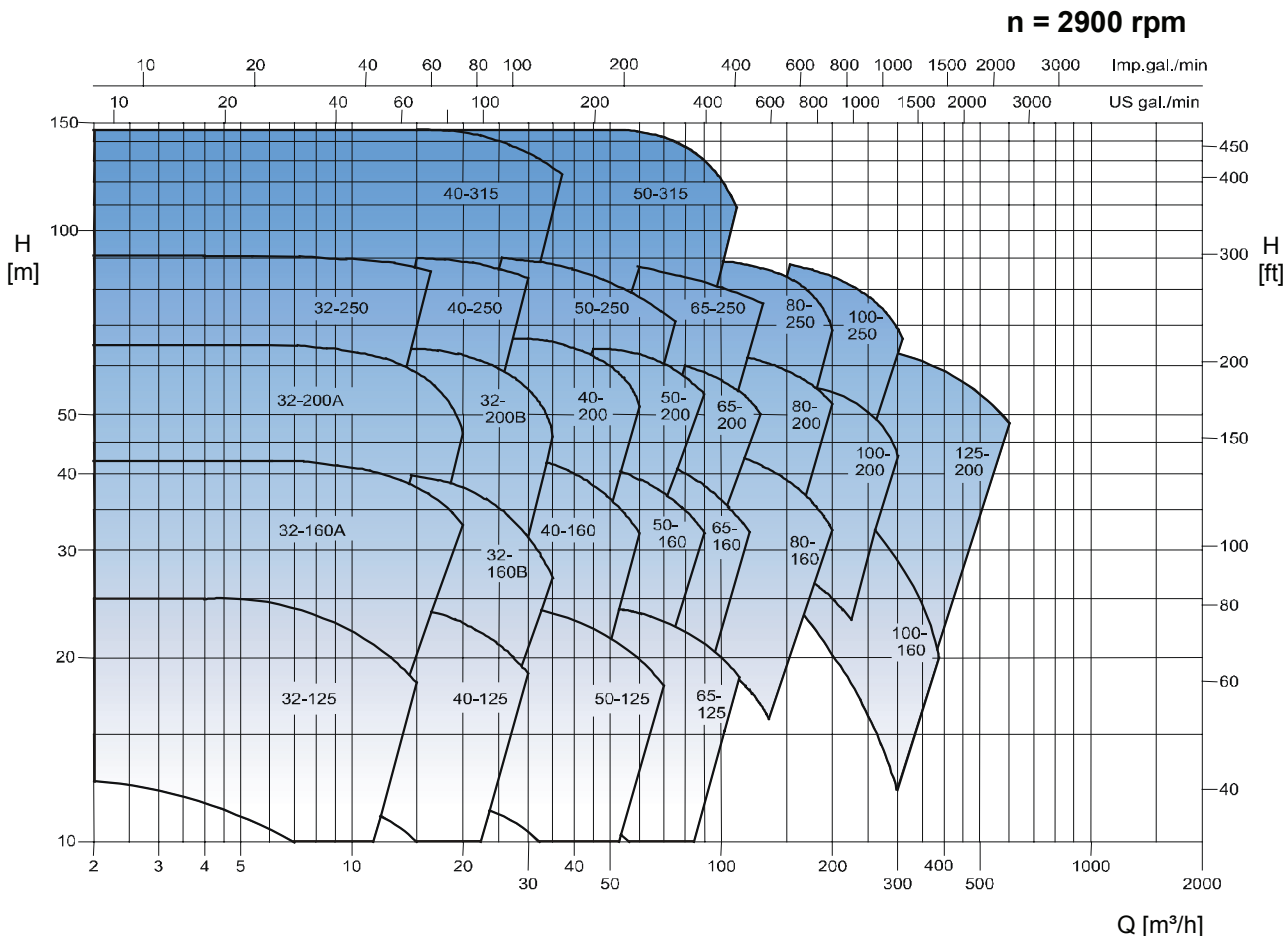
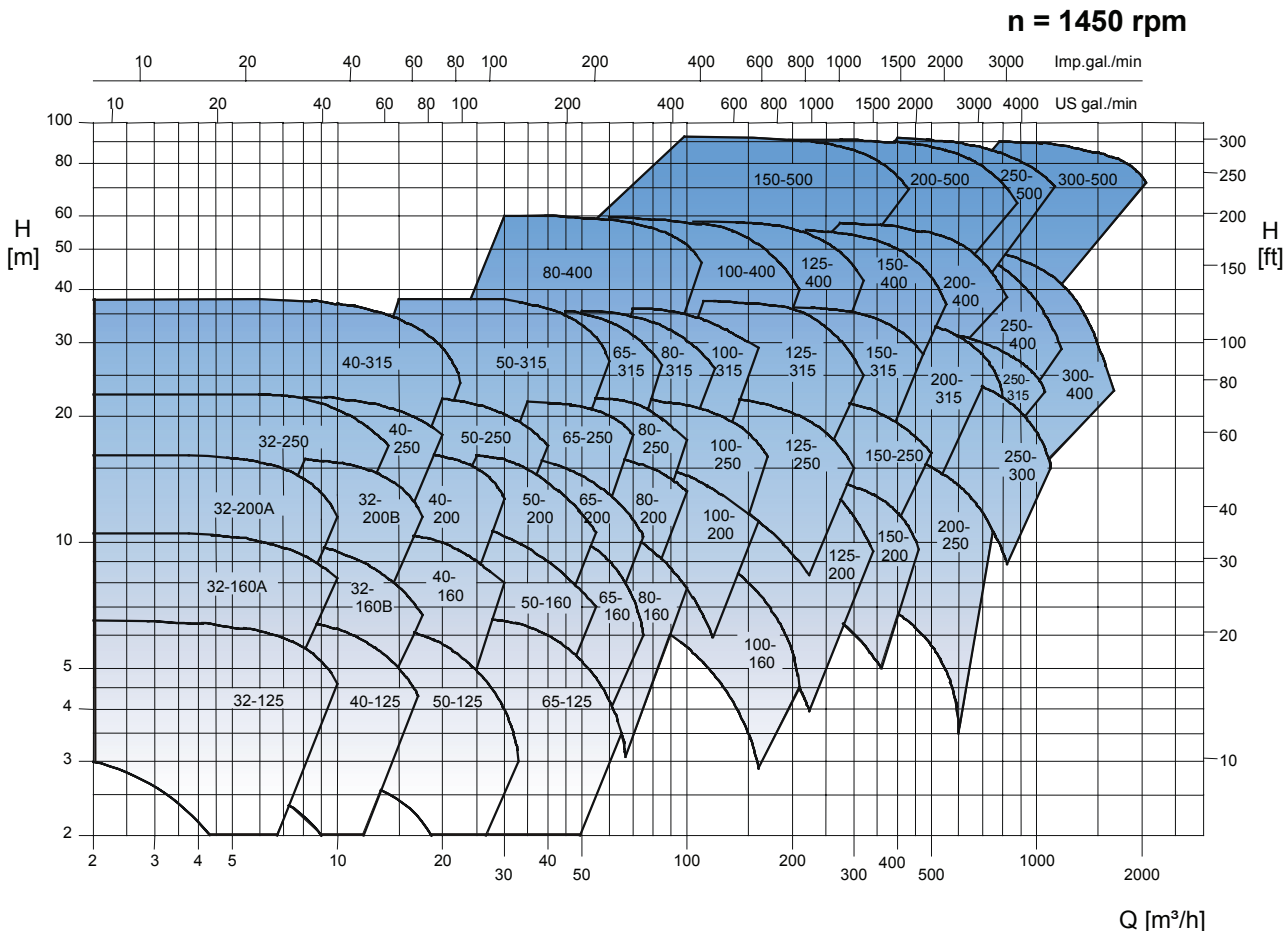
10.20	volute casing	23.00	impeller	43.30	mechanical seal
16.10	casing cover	32.10	ball bearing	46.10	stuffing box
18.30	support foot	33.00	bearing bracket	52.40	shaft sleeve (stuffing box)
21.00	shaft				



SECTIONAL DRAWING AND NOMENCLATURE



Performance Graph



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