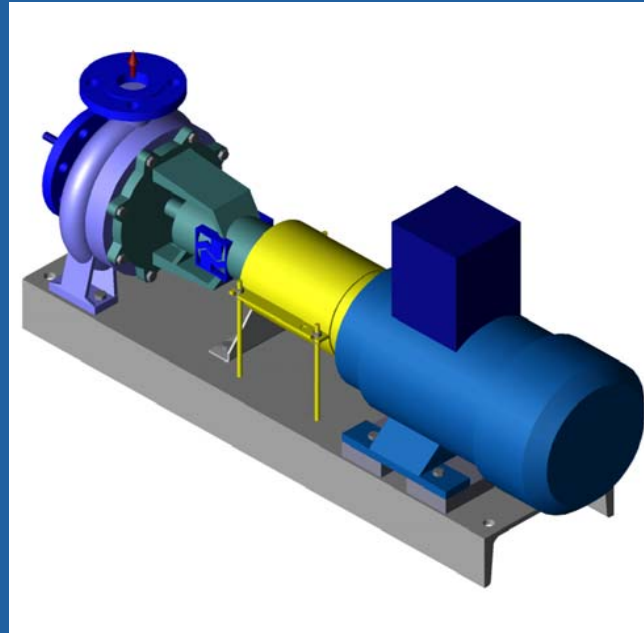




Unternehmen der Colfax Corporation - Business Units of Colfax Corporation





>> Volute Casing Centrifugal Pumps PN16 Series CLT

Technical Presentation

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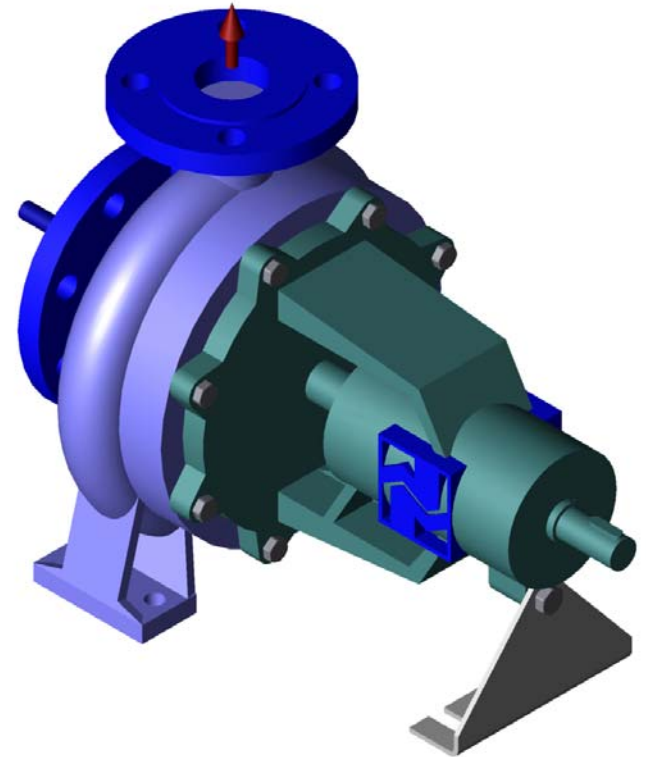
Main field of application

For applications of the most varied kind in all industrial branches,
especially wherever pumps of corrosion-resistant materials are specified.

- Partially or fully desalinated water
- Chlorinated bathwater
- Thermal water
- Mineral water
- Condensate
- Heating water
- Highly dilute acid
- Dilute base
- Water-glycol-mix
- Edible oil
- Bio fuels
- Fatty acids

Design and construction

- Horizontal, single-stage, single-flow volute casing centrifugal pump with axial inlet.
- Series construction according to the modular system, shaft bearing in a bearing bracket which can be optionally provided with a support foot
- Main dimensions (volute casing only) and rated performances according to DIN EN 22858 / ISO 2858.

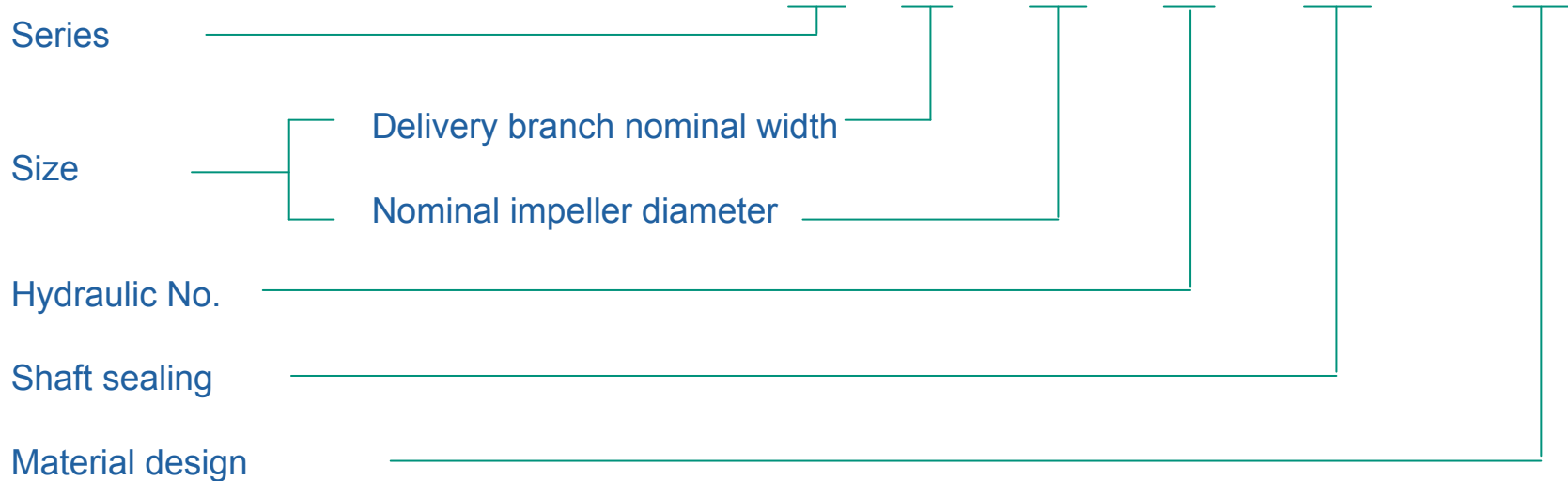


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Abbreviation

Abbreviation system of a CLT-Pump

CLT 32 – 200 / 11 U 3.1 D - W 20



The abbreviation is entered on the name plate

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Performance data¹

Capacity	Q	up to 300 m ³ /h
Delivery head	H	up to 100 m
Liquid temperature	t	up to 140 °C
Discharge pressure	p _d	up to 16 bar ²

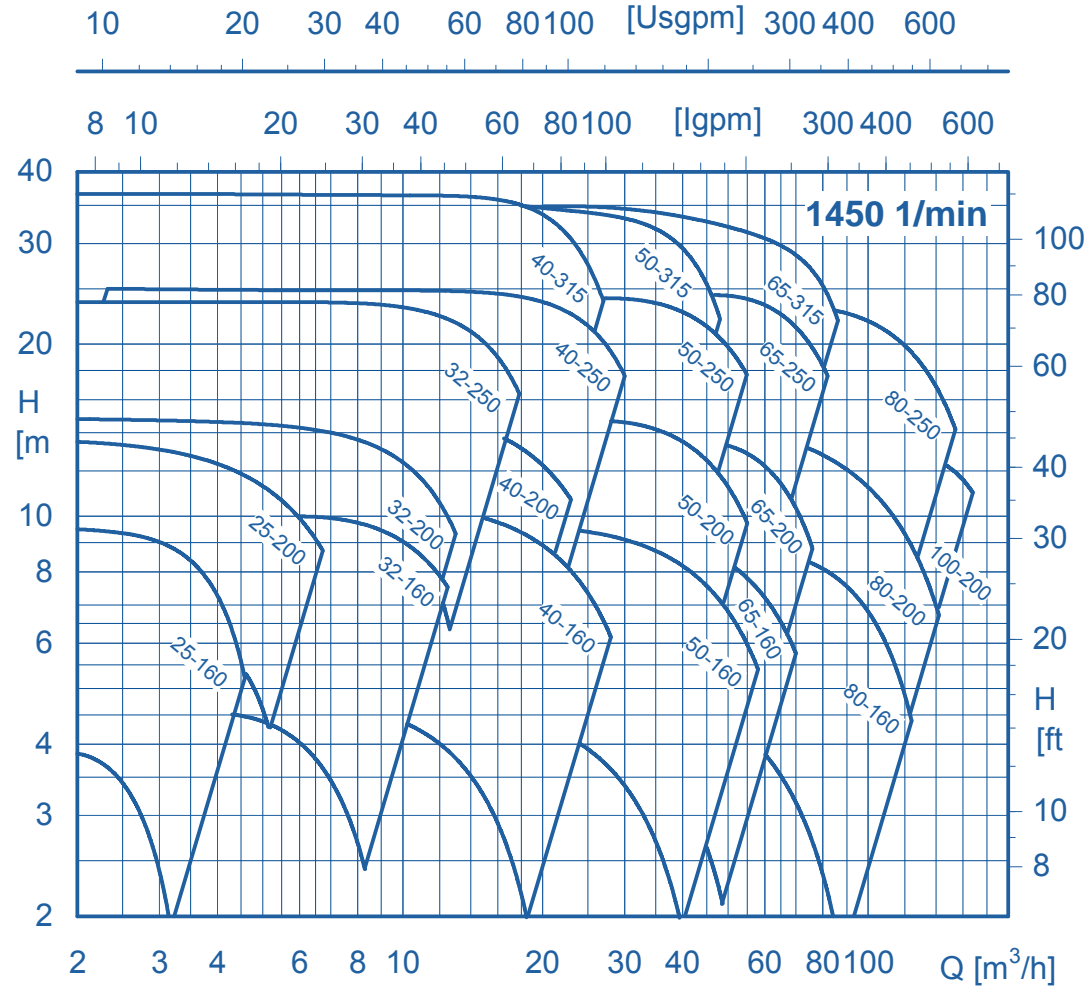
¹ The performance data overview is based on drive speeds that occur when using three-phase motors in a 50-Hz power grid. Refer to the proposal and order confirmation for exact operation limits.

² Observe pressure/temperature limits specific to the material. Inlet pressure plus the maximum differential pressure generated by the impeller may not exceed the permissible working pressure.

Performance graph

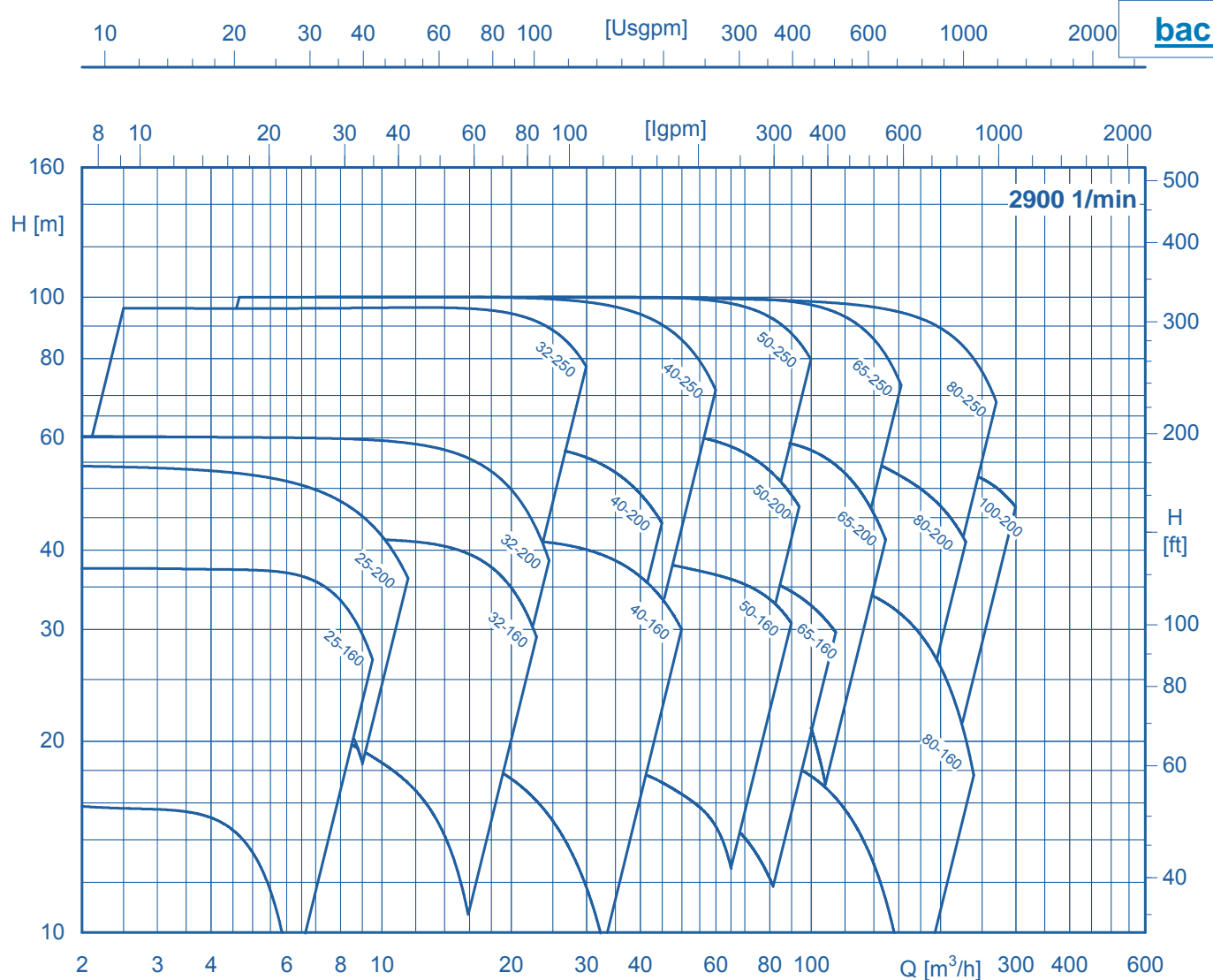
1450 1/min

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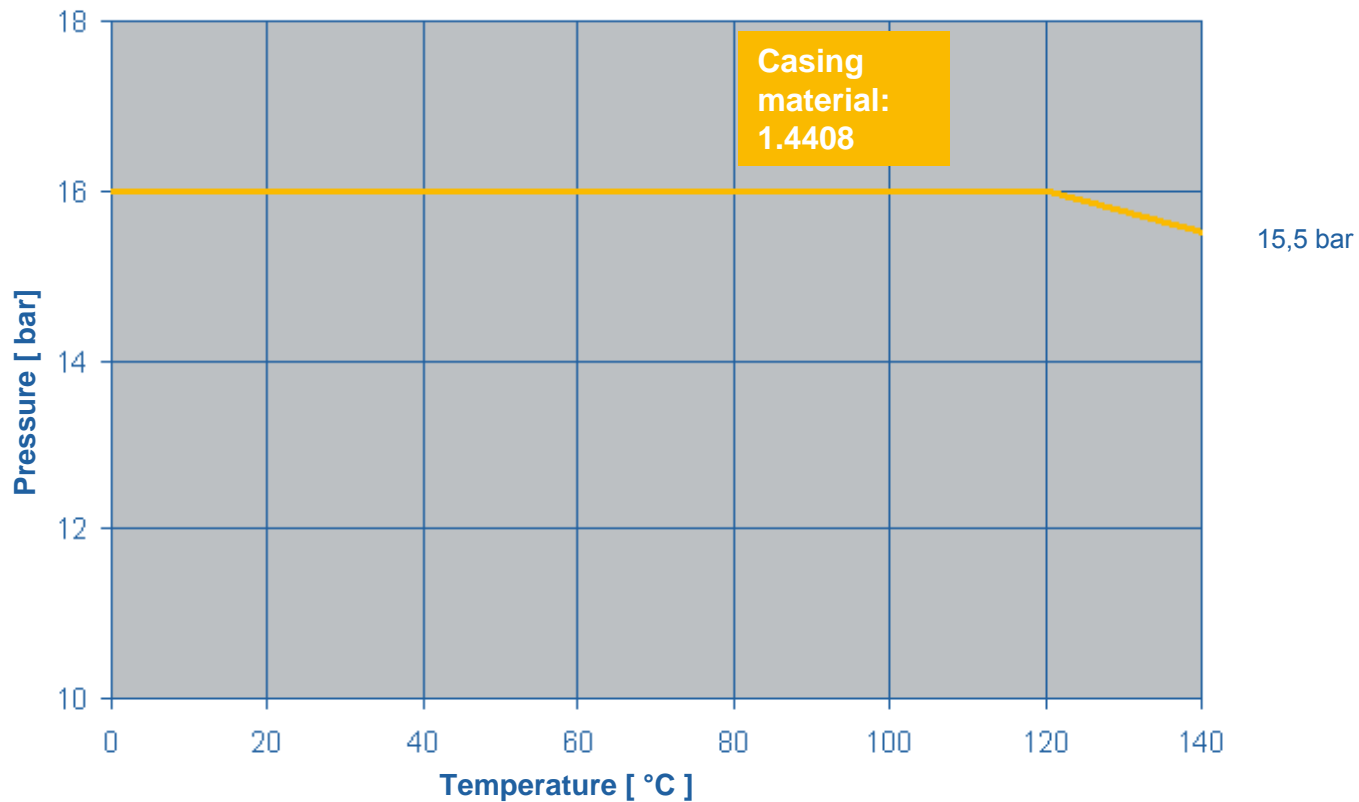
Performance graph

2900 1/min



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Pressure- and temperature limits of casing



Branch position, flange and connection

Suction branch: axial

Discharge
branch: radically upwards

Flange: according to DIN EN 1092-1/B1/PN16¹

¹ optionally according to ASME B16.5/RF/150 (additional charge)

Connection: FD1 Draining

LO1 Leakage

PM1 and PM2 auxiliary connection for pressure control,
flushing or venting (optionally against additional charge)

Shaft sealing

All sizes by maintenance-free standard mechanical seal unbalanced and non-cooled design in various materials:

Abbreviation	U3D	U3.1D	U3.9D	U3.12D	U3.20D
Material code according to DIN EN 12 756	BVEGG	BVVGG	Q1Q1EGG	Q1Q1VGG	AQ1EGG
Admissible liquid temperature	100 °C	100 °C	100 °C	100 °C	140 °C
Max. admissible pressure on the mechanical seal	10 bar	10 bar	10 bar	10 bar	10 bar

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Materials

Denomination of part	Part-No.	Material-Code: W20
Volute casing	102.01	1.4408
Casing cover	161.01	1.4408
Impeller	230.01	1.4408
Shaft	210.01	1.4571
Bearing bracket	330.01	EN-GJL-250

Bearing and lubrication

Through two permanently lubricated groove ball bearings according to DIN 625, bearing clearance C3.

Dismantling of the insert unit

When using a shaft coupling with distance piece the insert unit can be dismantled towards the motor side, while the volute casing and the motor may remain on the base plate, and the pipes at the volute casing.

Customer benefit at a glance

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Efficiency

thanks to very good hydraulic

Negligible axial thrust

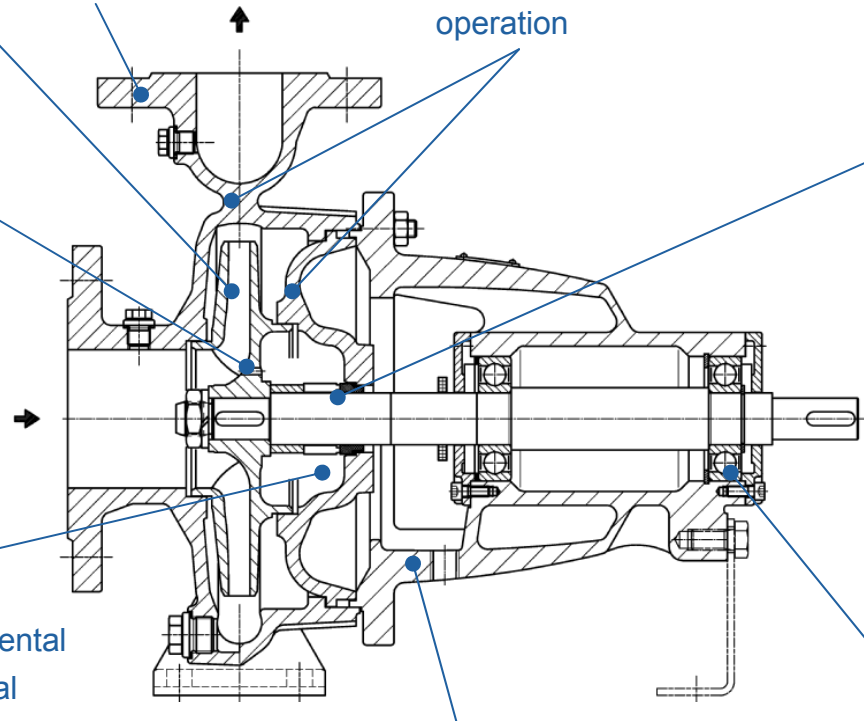
by fine adaptation of the relief bores

Safe in operation

through optimized environmental conditions for the mechanical seal. Constant removal of heat, solids, and gases from the sealing

Variable flange standards

Pressure safe casing parts designed for high reliability of operation



Easy to install with process design

Casing connection dimensions and capacities according to DIN EN 22856 / ISO 2856

Shaft sealing by mechanical seal

Material selection according to the operating conditions

Economical

Modular system makes spare parts stocks economical

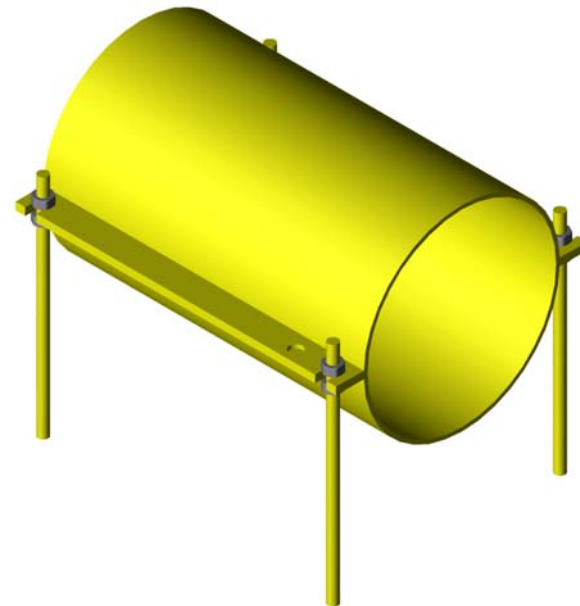
Maintenance-free

with lifetime grease-lubricated robust groove ball bearing

Shaft coupling and coupling guard

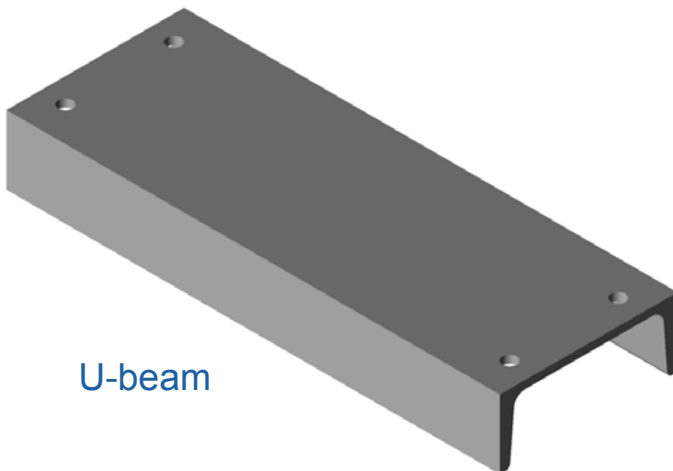
Drive torque is transferred through a flexible coupling to the pump shaft. The shaft coupling can be delivered with or without a distance piece. The length of the distance piece is selected so that there is adequate axial tolerance to dismantle the insert unit.

A coupling guard with safety guarding according to DIN EN 294 is included whenever pump, base plate, and shaft coupling are delivered together. The safety requirements of DIN EN 809 are fulfilled.

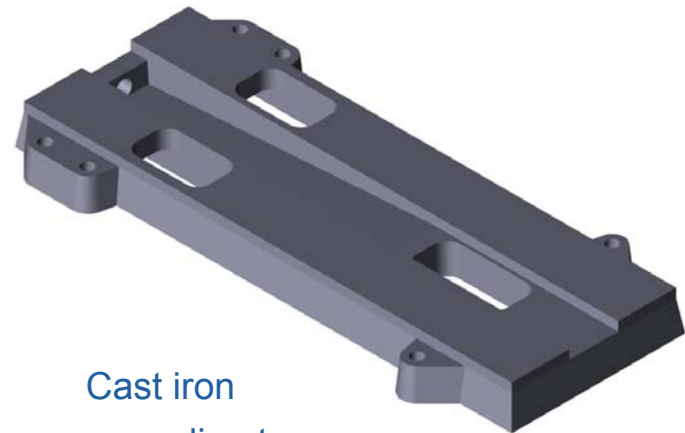


Base plate

Standard: steel base plate (U-beam). Optionally: massive base plate made of cast iron according to ISO 3661 with leakage drip channel. Installation dimensions are given in the ALLWEILER drawing archive ALL2CAD.



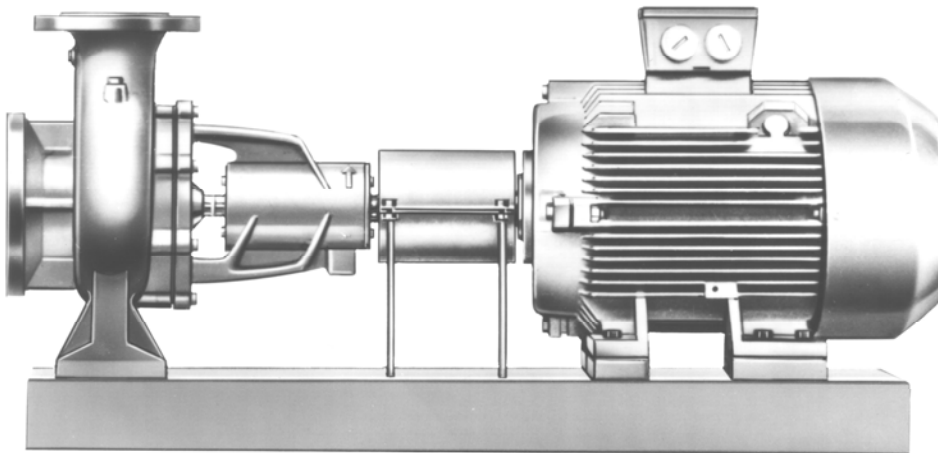
U-beam



Cast iron
according to
ISO 3661

Drive

Standard: surface-cooled three-phase squirrel cage motors , type of construction IM B3, degree of protection IP 55 according to IEC-Norm, class of insulation F. Capacity and main dimension according to DIN 42 673. Other drive options available.



Explosion protection

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The pump fulfills the requirements according to EU explosion-protection directive 94/9/EC (ATEX 100a) for devices in device class II, category 2 G. Classification into temperature classes according to EN 13463-1 depends on the temperature of the pumped liquid. Refer to proposal and order documentation for the maximum permissible temperature of the liquid for the respective temperature classes.

Note: When operating the pump in category 2, suitable measures must be provided to prevent impermissible warming of the pump surfaces during disturbance.

Combination of structural components

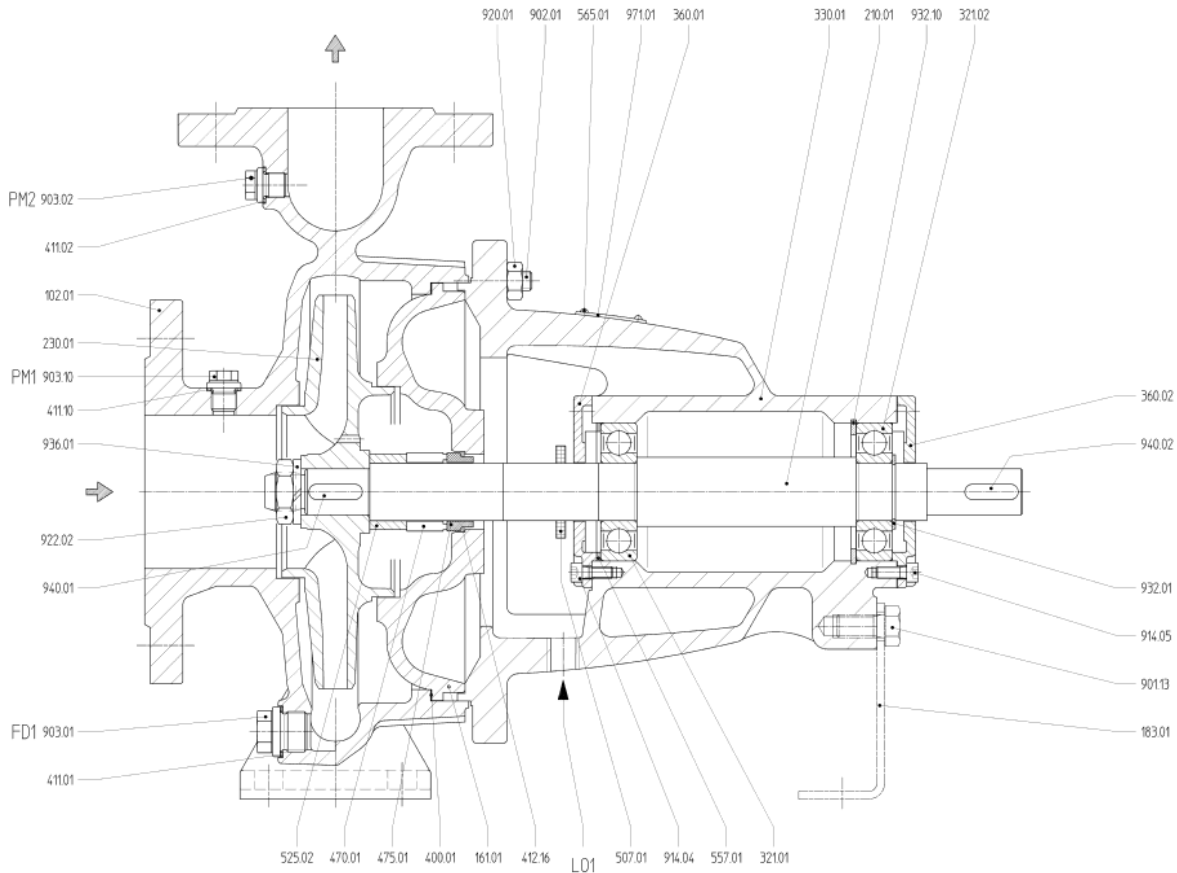
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Combinations of structural components of all CLT sizes. The modular system allows a simplified spares inventory.

Bearing bracket size	Pump size	Combination: Within a column, the items with the same number are interchangeable.									
		Casing cover	Support foot	Shaft	Groove ball bearing	Groove ball bearing	Bearing bracket	Mech. seal rotating part	Mech. seal counter ring	Inter-mediate ring	Impeller nut
360	25-160	1	1	1	1	1	1	1	1	-	1
	25-200		2								
	32-160		1								
	32-200		2								
	40-160		1								
	40-200		2								
	50-160		2								
	50-200		2								
	65-160		2								
	80-160		3								
470	32-250	2	4	2	2	2	2	2	2	-	2
	40-250		4							-	
	40-315		5							1	
	50-250		4							-	
	50-315		6							1	
	65-200		4							-	
	65-250		5							-	
	80-200		4							-	
	80-250		6							-	
	100-200		5							-	

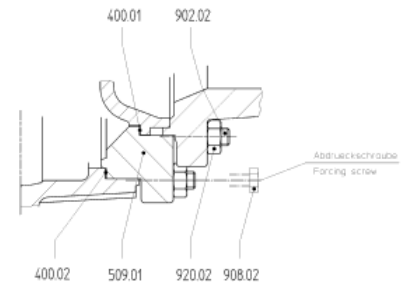
Sectional drawing: Bearing bracket size 360 and 470

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Connections

FD1	Draining
LO1	Leakage
PM1, PM2	Pressure control (optional)



Design with intermediate ring

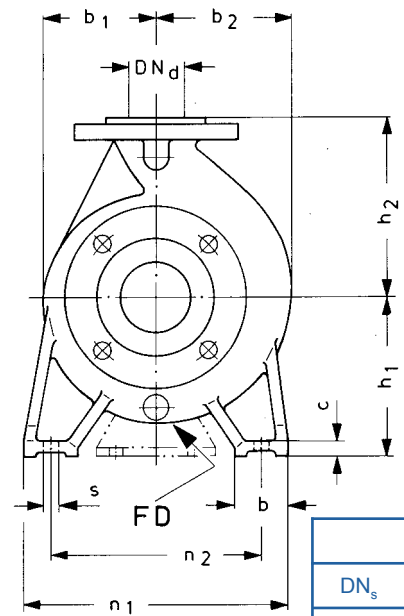
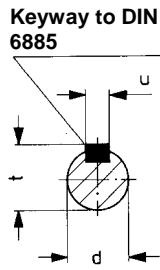
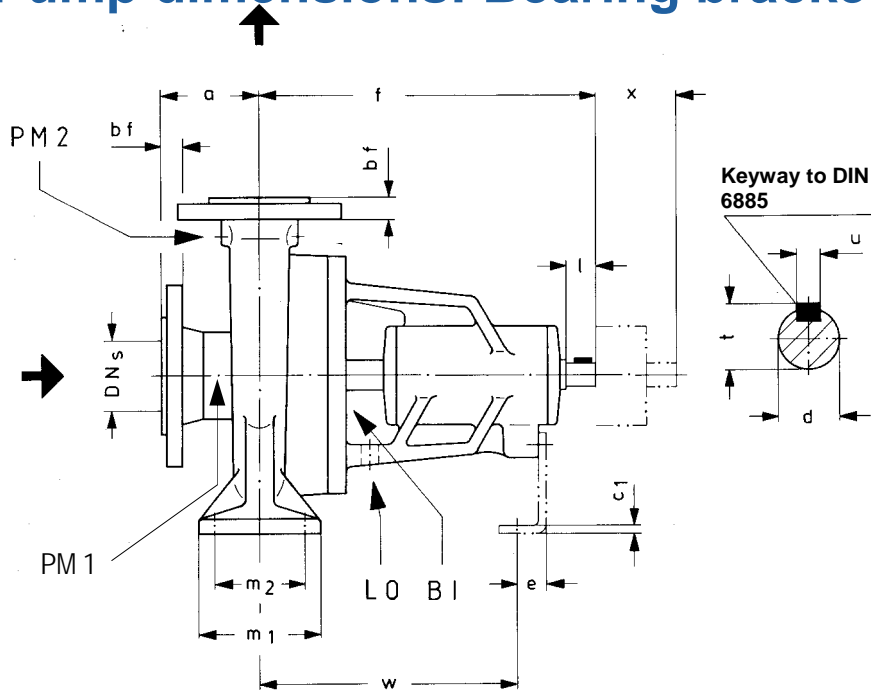
Sectional drawing: Bearing bracket size 360 and 470

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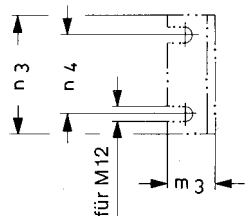
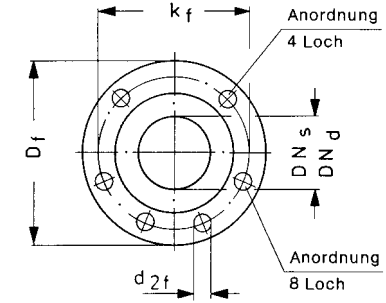
Denomination	Part-No.	Denomination	Part-No.
Volute Casing	102.01	Spacer sleeve	525.02
Casing cover	161.01	Compensating disc	557.01
Support foot	183.01	rivet	565.01
Shaft	210.01	Hexagon screw	901.13
Impeller	230.01	Hexagon nut	902.01
Groove ball bearing	321.01	Hexagon nut	902.02
Groove ball bearing	321.02	Screw plug	903.01
Bearing bracket	330.01	Screw plug	903.02
Bearing cover	360.01	Screw plug	903.10
Bearing cover	360.02	Socket head cap screw	914.04
Gasket	400.01	Socket head cap screw	914.05
Gasket	400.02	Hexagon nut	920.01
Joint ring	411.01	Hexagon nut	920.02
Joint ring	411.02	Impeller nut	922.02
Joint ring	411.10	Circlip	932.01
Round seal	412.16	Circlip	932.10
Mechanical seal part	470.01	Spring ring	936.01
Stationary seal ring	475.01	Key	940.01
Thrower	507.01	Key	940.02
Intermediate ring	509.01	Name plate	971.01

Pump dimensions: Bearing bracket size 360 and 470

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Connections		
FD1	Draining	G 1/2
LO1	Leakage	G 3/8
PM1 und PM2 (optional)	Pressure Control	G 1/4



Flange DIN EN 1092-1/B1/PN16					
DN _s				Hole patte r n	
DN _d	D _f	b _f	k _f		d _{2f}
25	115	18	85	4	14
32	140	18	100	4	18
40	150	18	110	4	18
50	165	20	125	4	18
65	185	18	145	4	18
80	200	20	160	8	18
100	220	20	180	8	18

Measure in mm
Changes to reserve

Sense of rotation: from the input side as seen in the clockwise direction.

Pump dimensions: Bearing bracket size 360 and 470

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Size	Suction flange DN _s	Pressure flange DN _d	Pump dimensions								Foot dimensions												Extension dimension x	Shaft end				Corresponds to EN 733
											for screws													acc. to DIN 748				
			a	f	b ₁	b ₂	h ₁	h ₂	b	c	c ₁	e	m ₁	m ₂	m ₃	n ₁	n ₂	n ₃	n ₄	W	S	d		l	t	u		
25-160	40	25	80	360	128	128	132	160	50	15	4	28	100	70	45	240	190	160	110	260	M 12	100	24	50	27	8		
25-200	40	25	80	360	132	132	160	180	50	15	4	28	100	70	45	240	190	160	110	260	M 12	100	24	50	27	8		
32-160	50	32	80	360	130	130	132	160	50	15	4	28	100	70	45	240	190	160	110	260	M 12	100	24	50	27	8	●	
32-200	50	32	80	360	130	135	160	180	50	15	4	28	100	70	45	240	190	160	110	260	M 12	100	24	50	27	8	●	
32-250	50	32	100	470	170	170	180	225	65	15	4	28	125	95	45	320	250	160	110	340	M 12	100	32	80	35	10		
40-160	65	40	80	360	130	130	132	160	50	15	4	28	100	70	45	240	190	160	110	260	M 12	100	24	50	27	8	●	
40-200	65	40	100	360	130	140	160	180	50	15	4	28	100	70	45	265	212	160	110	260	M 12	100	24	50	27	8	●	
40-250	65	40	100	470	170	170	180	225	65	15	4	28	125	95	45	320	250	160	110	340	M 12	100	32	80	35	10		
40-315	65	40	125	470	200	200	200	250	65	20	4	28	125	95	45	345	280	160	110	340	M 12	100	32	80	35	10		
50-160	80	50	100	360	130	130	160	180	50	15	4	28	100	70	45	265	212	160	110	260	M 12	100	24	50	27	8		
50-200	80	50	100	360	135	150	160	200	50	15	4	28	100	70	45	265	212	160	110	260	M 12	100	24	50	27	8		
50-250	80	50	125	470	170	170	180	225	65	15	4	28	125	95	45	320	250	160	110	340	M 12	100	32	80	35	10		
50-315	80	50	125	470	200	200	225	280	65	20	6	30	125	95	47	345	280	160	110	340	M 12	100	32	80	35	10		
65-160	100	65	100	360	130	155	160	200	65	15	4	28	125	95	45	280	212	160	110	260	M 12	100	24	50	27	8		
65-200	100	65	100	470	170	170	180	225	65	15	4	28	125	95	45	320	250	160	110	340	M 12	140	32	80	35	10		
65-250	100	65	125	470	170	190	200	250	80	18	4	28	160	120	45	360	280	160	110	340	M 16	140	32	80	35	10		
80-160	125	80	125	360	145	180	180	225	65	15	4	28	125	95	45	320	250	160	110	260	M 12	140	24	50	27	8		
80-200	125	80	125	470	170	190	180	250	65	18	4	28	125	95	45	345	280	160	110	340	M 12	140	32	80	35	10		
80-250	125	80	125	470	185	210	225	280	80	18	6	30	160	120	47	400	315	160	110	340	M 16	140	32	80	35	10		
100-200	125	100	125	470	170	205	200	280	80	18	4	28	160	120	45	360	280	160	110	340	M 16	140	32	80	35	10	●	

Measure in mm
Changes to reserve

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Subject to technical alterations.

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The mentioned performance data and additionally all standard references are to be considered as a product and performance abstract only. The particular operating limits can be taken from the quotation or order acknowledgement.