

# X-CLASS HEAVY-DUTY PUMP – STANDARD PUMP NX FOR CHEMICALS ISO 2858/ DIN EN 22858

## Features

- X-CLASS is the beginning of a new generation of powerful heavy-duty plastic pumps
- Based on innovative strength and over 60 years of expertise in the use of thermoplastics, we have set a new milestone in the shape of a future-oriented, efficient and reliable pump system. It can withstand anything.
- Plastic standard pump for chemicals
- Extreme resistance
- Maximum safety
- Long-lived and sturdy
- Significantly improved service life

[www.stuebbe.com/en/products-systems/pumps/](http://www.stuebbe.com/en/products-systems/pumps/)



### Use

- for handling aggressive, crystallizing and toxic fluids as well as fluids filled with solids

### Customized hydraulic systems

Can be selected according to application:

#### Semi-open pump impellers (H):

- as a default for smaller pump sizes
- recommended for fluids filled with solids

#### Closed impellers (G):

- For larger pump sizes

#### Customized 3-channel non-chokable impellers (F):

- For extreme cases with large solid particles or contamination

All designs are marked with the 3rd letter in the type designation.

### Pump variety

- 18 different pump sizes up to 1,000 m<sup>3</sup>/h for even the most difficult conveying tasks

### Maximum safety

- Full sheathing of the thick-walled plastic components, protects the plastic components against UV light, among other things
- The chamber design provides a certain protection in the event of sudden, strong leaks
- Great system safety
- Improved protection against injuries of the operating personnel

### Long-lived and sturdy

- Metal chamber design absorbs a significant part of the pipework forces
- Highly resilient fixed/floating bearing
- Anti-friction bearings lubricated for life by default
- Reinforced bearing available with grease or oil lubrication
- Sturdy universal shaft for each available end face mechanical seal types
- Chamber design of round seals

### ATEX-compliant

According to directive 2014/34/EU (ATEX):

- Unit group II
- Category 2G
- Temperature class T3 or T4

### Material variants

Depending on the mechanical, chemical, thermal or abrasive load, several materials are available for different applications:

- UHMW-PE (ultra high molecular low-pressure polyethylene)
- PP-H (homopolymeric polypropylene)
- PVDF (polyvinylidene fluoride)
- PFA / PTFE (perfluoroalkoxy / polytetrafluorethylene)

All designs are marked with the 4th letter in the type designation.

### Special features

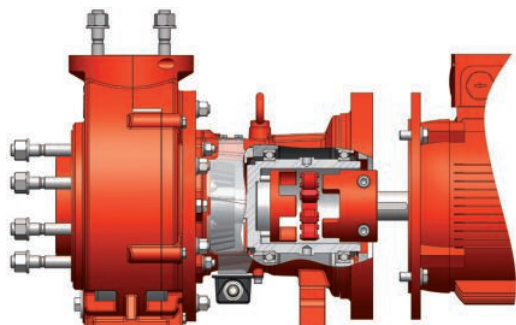
- fully sheathed plastic components
- pressure level PN 16
- self-developed, innovative end face mechanical seal module kit (single- and double-acting), customized for STÜBBE X-Class pump
- ATEX-compliant according to directive 2014/34/EU
- available as close-coupled pump (type designation BX) with its own shaft bearing throughout and flange motor design up to pump size 125-100-200
- Non-chokable design with 3-channel impeller

### Options

- Draining and rinsing connections
- FDA approval for plastics and auxiliary seals
- conductive plastics available
- customized hydraulic systems on request

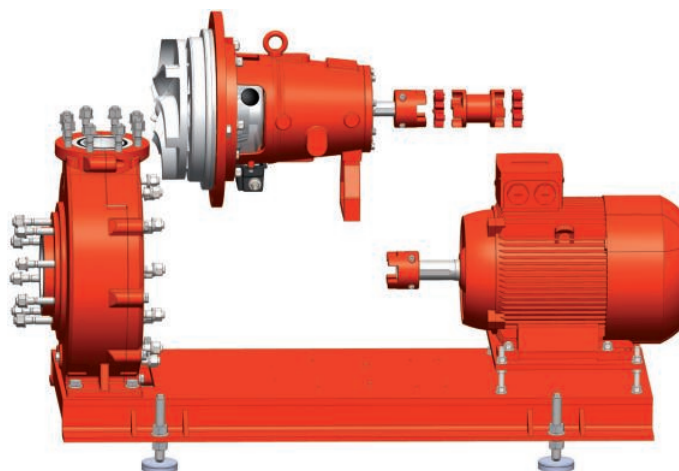
## Designs

## Close-coupled pump design



- The standard pumps for chemicals are also available in a close-coupled pump design under the type designation BX.
- Unlike the design of most competitors, this product series has its own shaft bearing as a special feature all the way through size 125-100-200, making assembly and disassembly comparable to a standard pump, as the pump is not „set up“ on a motor shaft.
- The pump has a hollow shaft, which is pushed into the flange motor.
- An elastic coupling is used for power transmission.

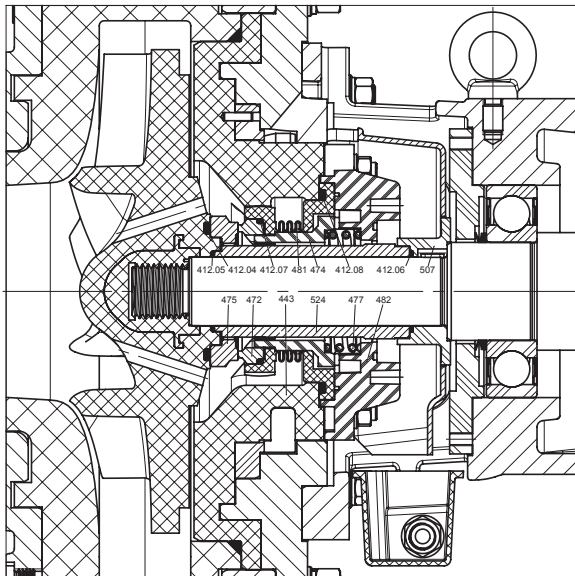
## Process design



- Special design principle, which significantly reduces assembly times during repair work, as neither the pipework connection nor the motor need to be dismantled to remove the bearing support (including the impeller and end face mechanical seal).
- Easy to assemble, clamped double-cardanic coupling facilitates assembly work

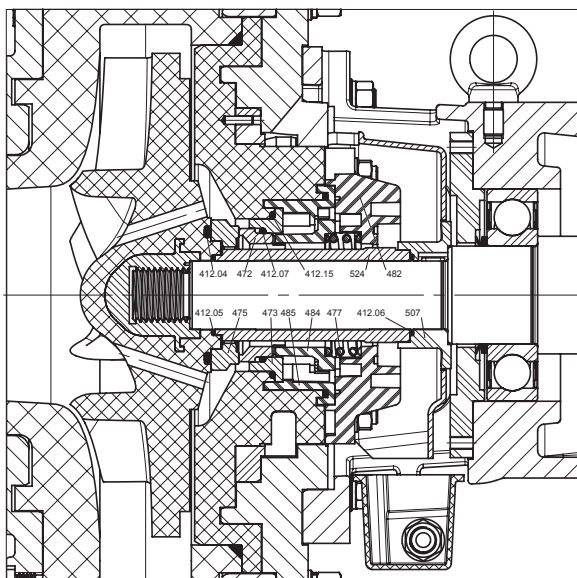
### Mechanical seals

- All available mechanical seals were developed in-house and are based on an innovative mechanical seal module kit to allow flexible responses to any requirements.
- For the single-acting mechanical seal, a bellows version or a high-pressure version for high inlet pressures (up to max. 8 bar) is available, which can be configured with quench and/or permanent or standstill rinsing, if necessary.
- The double-acting STÜBBE mechanical seal also uses the module system and covers particularly difficult applications.

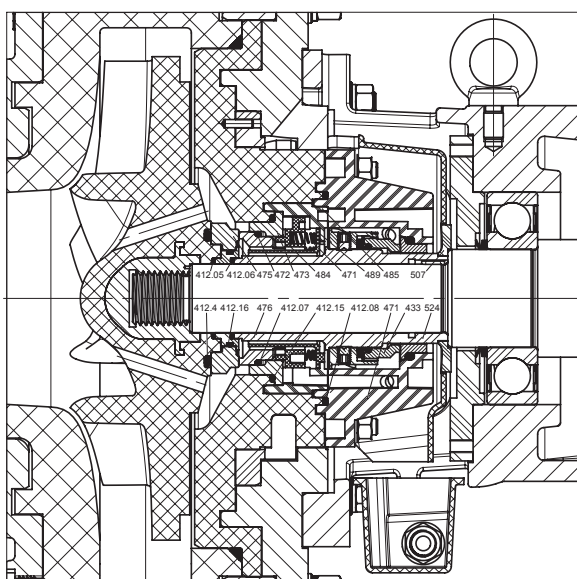


### Single-acting PTFE bellows mechanical seal

- (PTFE) bellows with spring support
- Universal chemical resistance, as the spring does not touch the fluid
- up to 115 °C and up to 3 bar(g) inlet pressure
- up to 8 bar(g) static pressure
- Torques are transferred at the slide and counter ring via an extremely stable tooth system (not via the clamping system) (high breakaway torque for bonding and adhesion forces)
- Suitable for fluids filled with solids
- Can be configured with quench and/or permanent or standstill rinsing, if necessary

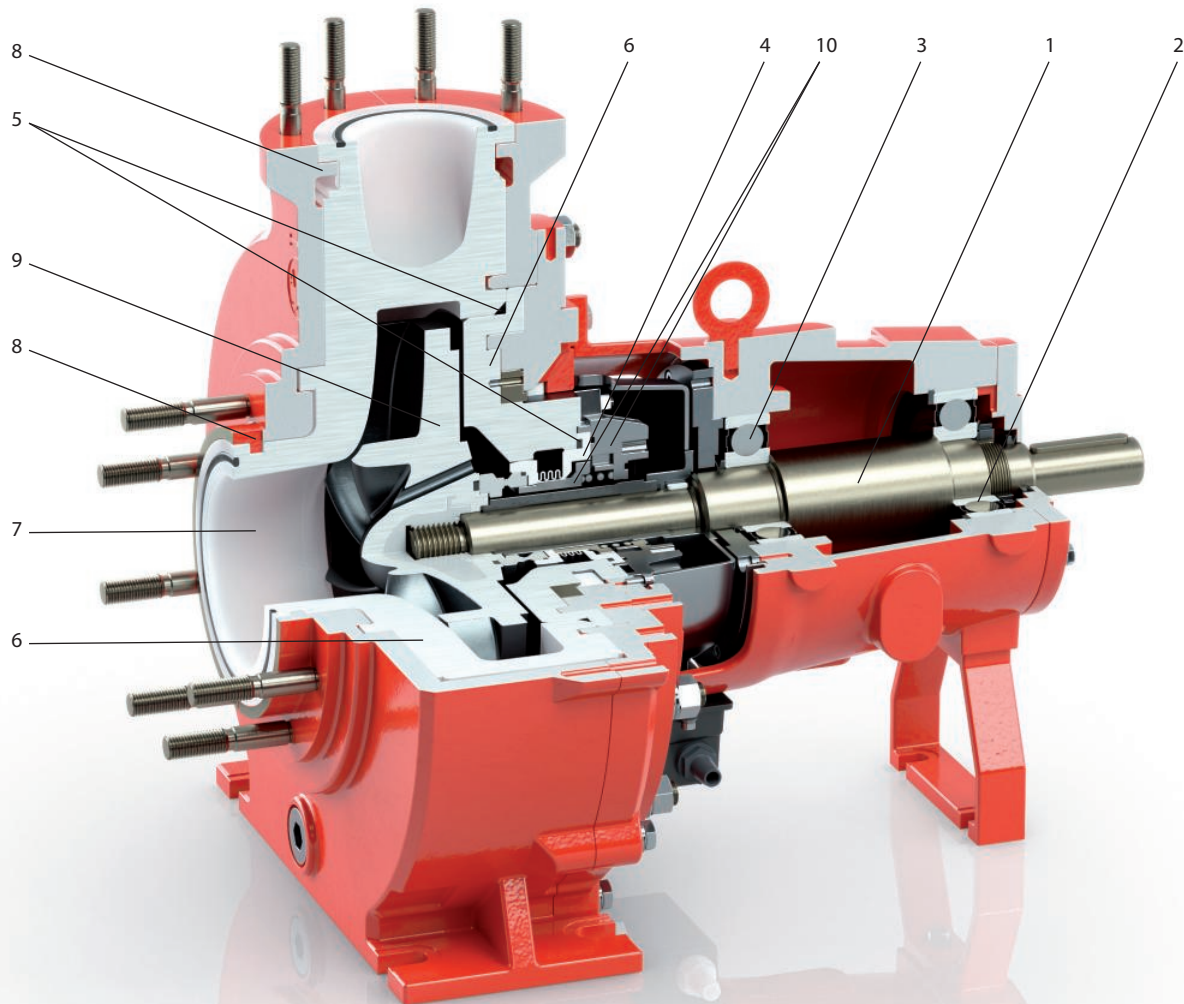

**Single-acting mechanical seal, type UV2**

- universal chemical resistance
- high-pressure resistant, single mechanical seal in „REA design“ with sturdy spring
- up to 160 °C and up to 8 bar(g) inlet pressure
- up to 16 bar(g) static pressure
- SSiC counter ring
- SSiC slide ring
- suitable for fluids filled with solids and applications with a high system pressure
- Torques are transferred at the slide and counter ring via an extremely stable tooth system
- Suitable for fluids filled with solids
- Can be configured with quench and/or permanent or standstill rinsing, if necessary


**Double-acting mechanical seal, type UV3**

- universal chemical resistance
- high-pressure resistant, double mechanical seal in „REA design“ with sturdy spring
- up to 160 °C and up to 8 bar(g) inlet pressure
- up to 16 bar(g) static pressure
- identical counter ring on the product side as for single-acting mechanical seal-modular principle
- The high-end solution for critical applications (e.g. in all cases where no sealing water or rinsing water may enter the transported fluid)

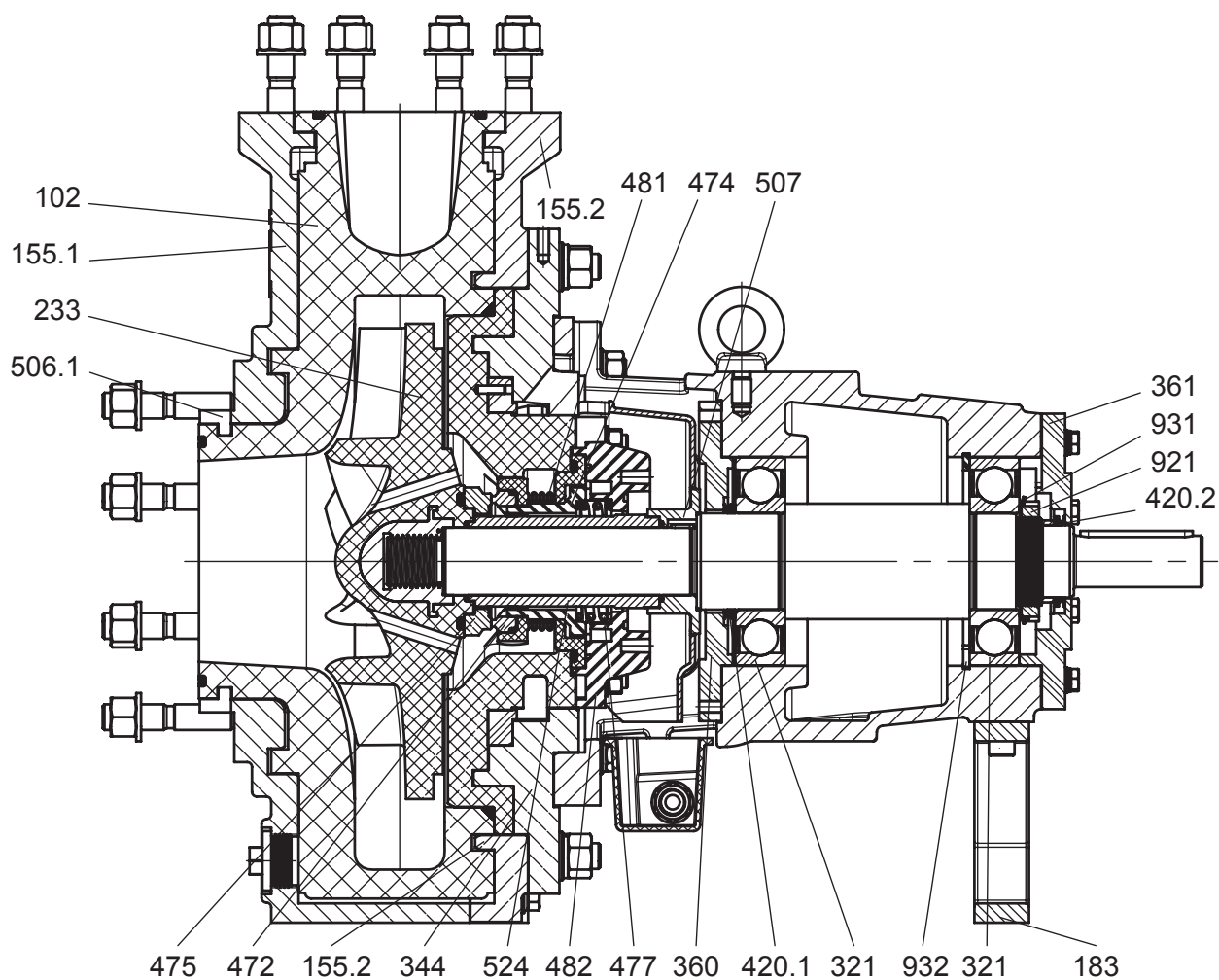
Sectional drawing



Item	Description
1	Sturdy universal shaft for any end face mechanical seal
2	Sturdy fixed/floating bearing
3	Anti-friction bearing lubricated for life (standard)
4	Mechanical sealing with universal chemical resistance (STÜBBE in-house development)
5	Round sealing ring with chamber design
6	Fully metal sheathed plastic components
7	Plastic components individually replaceable
8	Pipework forces are absorbed by metal components
9	Efficient hydraulic system
10	60 years of expertise in the use of thermoplastics



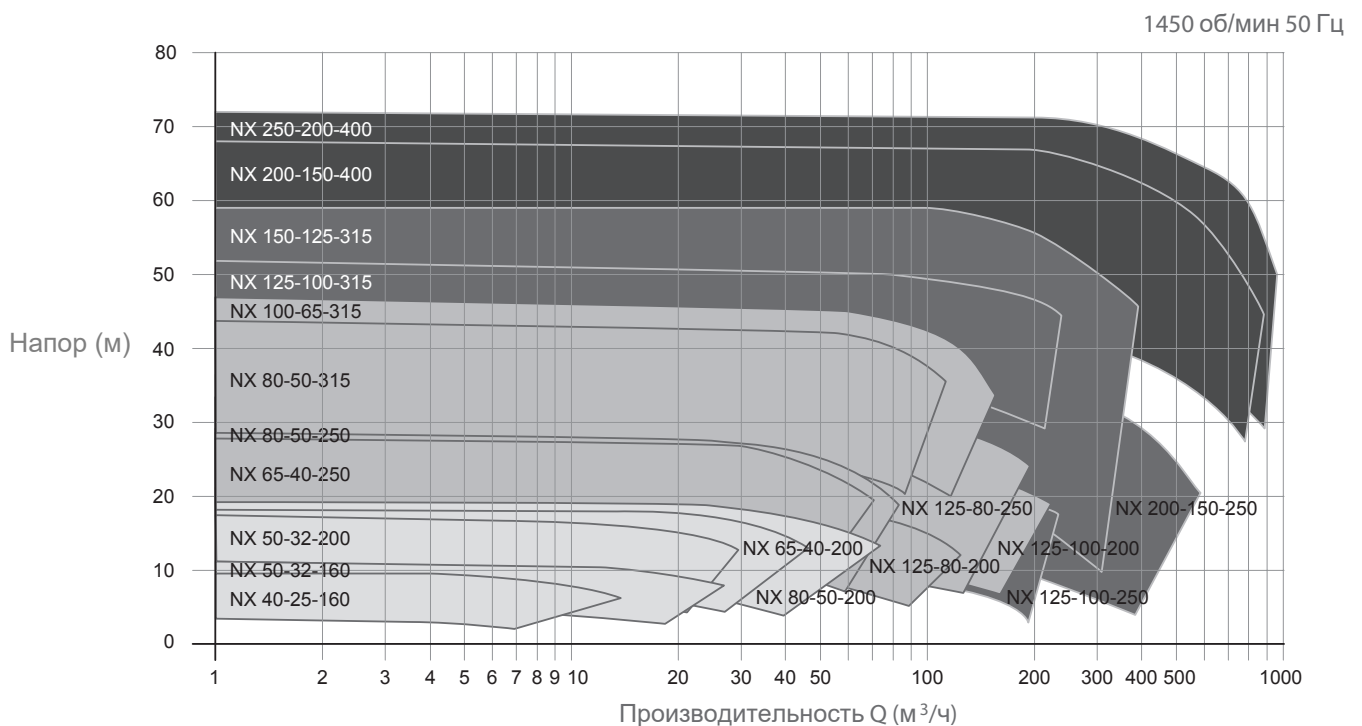
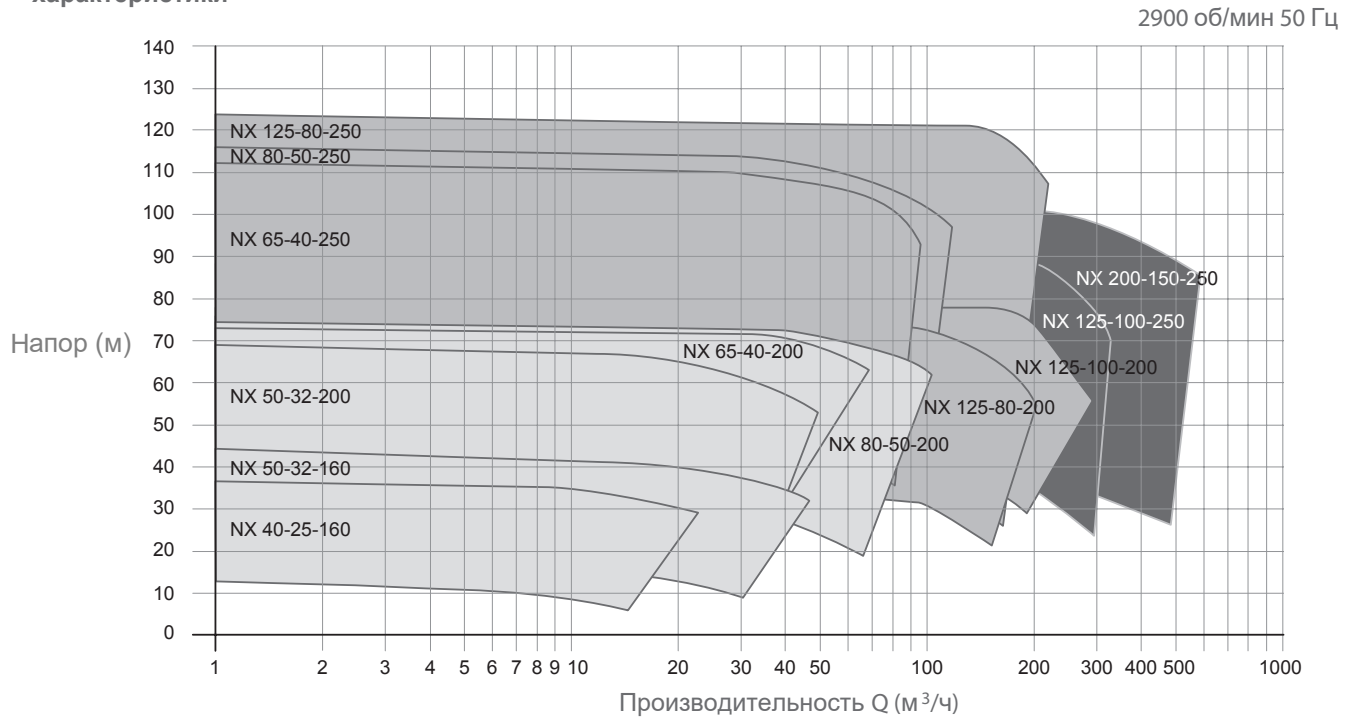
X-CLASS Heavy-Duty Pump – Standard pump NX for Chemicals



Item	Description
102	Внутренний корпус
155.1	Передняя крышка
155.2	Задняя крышка
183	Опорная лапа
233	Рабочее колесо
321	Шариковый подшипник
344	Крышка
360	Крышка подшипника сторона насоса
361	Крышка подшипника сторона двигателя
420.1	Уплотнение вала
420.2	Уплотнение вала
472	Скользящее кольцо

Item	Description
474	Зажимное кольцо
475	Удерживающее кольцо
477	Пружина
481	Сильфон
482	Крышка уплотнения
506.1	Удерживающее кольцо
507	Защитное кольцо
524	Втулка вала
921	Гайка вала
931	Защитная шайба
932	Стопорное кольцо

### гидравлические характеристики



- Bearing support size I
- Bearing support size II
- Bearing support size III
- Bearing support size IV

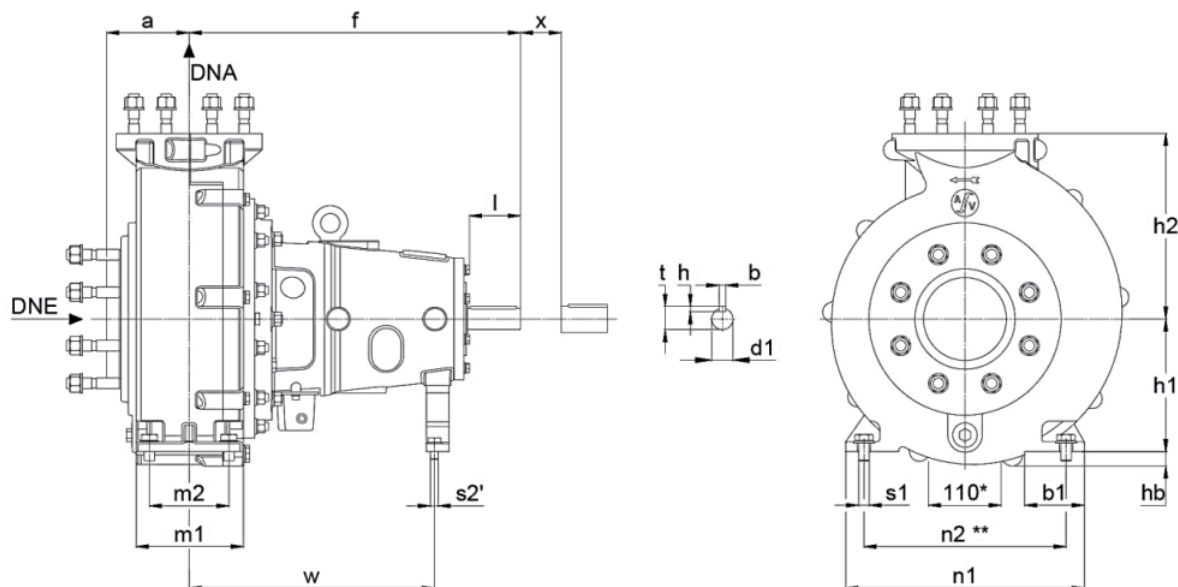
The sizes 40-25-160, 100-65-315 and 250-200-400 are loosely based on the standard ISO 2858/DIN EN 22858 (trans standard pumps)



**X-CLASS Heavy-Duty Pump – Standard pump NX for Chemicals**

**Dimensions**

Dimensions of standard pump NX for chemicals

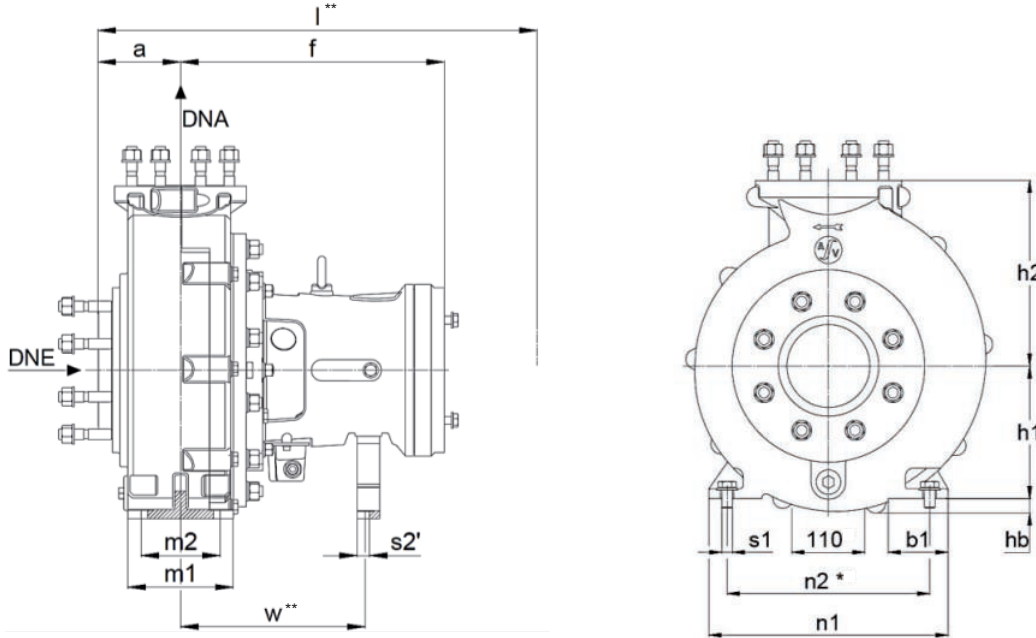


\* Dimension 140 for NX 200-150-400 / NX 250-200-400  
 \*\* Dimension 305 for NX 125-100-200

Size	Pump type	Flange PN 16 according to DIN 2501		Pump dimensions					Base dimensions								Shaft end according to DIN 748					
		DNE	DNA	a	f	h1	h2	hb	b1	m1	m2	n1	n2	s1	s2'	w	x	d1	l	t	h	b
I	NX 40-25-160*	40	25	80	385	132	160	-	50	100	70	240	190	M12	M12	285	100	24	50	270	7	8
I	NX 50-32-160	50	32	80	385	132	160	13	50	100	70	240	190	M12	M12	285	100	24	50	270	7	8
I	NX 50-32-200	50	32	80	385	160	180	-	50	100	70	240	190	M12	M12	285	100	24	50	270	7	8
I	NX 65-40-200	65	40	100	385	160	180	-	50	100	70	265	212	M12	M12	285	100	24	50	270	7	8
II	NX 65-40-250	65	40	100	500	180	225	-	65	125	95	320	250	M12	M12	370	100	32	80	350	8	10
I	NX 80-50-200	80	50	100	385	160	200	-	50	100	70	265	212	M12	M12	285	100	24	50	270	7	8
II	NX 80-50-250	80	50	125	500	180	225	-	65	125	95	320	250	M12	M12	370	100	32	80	350	8	10
II	NX 80-50-315	80	50	125	500	225	280	-	65	125	95	345	280	M12	M12	370	100	32	80	350	8	10
II	NX 100-65-315*	100	65	125	500	225	280	25	80	160	120	400	315	M16	M12	370	140	32	80	350	8	10
II	NX 125-80-200	125	80	125	500	180	250	-	65	125	95	345	280	M12	M12	370	140	32	80	350	8	10
II	NX 125-80-250	125	80	125	500	225	280	-	80	160	120	400	315	M16	M12	370	140	32	80	350	8	10
II	NX 125-100-200	125	100	125	500	200	280	25	80	160	120	360	305	M16	M12	370	140	32	80	350	8	10
III	NX 125-100-250	125	100	140	530	225	280	-	80	160	120	400	315	M16	M12	370	140	42	110	450	8	12
III	NX 125-100-315	125	100	140	530	250	315	-	80	160	120	400	315	M16	M12	370	140	42	110	450	8	12
III	NX 150-125-315	150	125	140	530	280	355	25	100	200	150	500	400	M20	M12	370	140	42	110	450	8	12
III	NX 200-150-250	200	150	160	530	280	375	-	100	200	150	500	400	M20	M12	370	180	42	110	450	8	12
IV	NX 200-150-400	200	150	160	670	315	450	-	100	200	150	550	450	M20	M16	500	180	48	110	515	9	14
IV+	NX 250-200-400*	250	200	180	720	355	500	-	100	200	150	550	450	M20	M16	500	180	60	110	640	11	18

\* Trans standard pump

Dimensions of close-coupled pump BX



\* Dimension 305 for BX 125-100-200

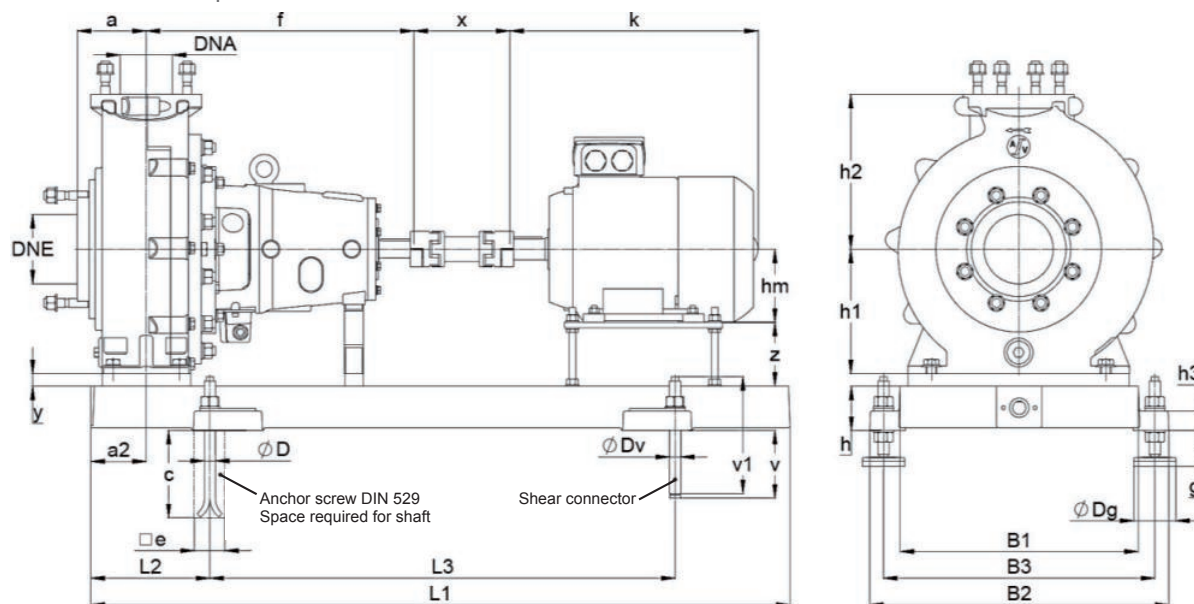
\*\* depending on motor size

Size	Pump type	Flange PN 16 according to DIN 2501		Pump dimensions					Base dimensions								
		DNE	DNA	a	f	h1	h2	hb	b1	m1	m2	n1	n2	s1	s2'	w	x
I	BX 40-25-160	40	25	80	320	132	160	–	50	100	70	240	190	M12	M12	285	100
I	BX 50-32-160	50	32	80	320	132	160	13	50	100	70	240	190	M12	M12	285	100
I	BX 50-32-200	50	32	80	320	160	180	–	50	100	70	240	190	M12	M12	285	100
I	BX 65-40-200	65	40	100	320	160	180	–	50	100	70	265	212	M12	M12	285	100
II	BX 65-40-250	65	40	100	400	180	225	–	65	125	95	320	250	M12	M12	370	100
I	BX 80-50-200	80	50	100	320	160	200	–	50	100	70	265	212	M12	M12	285	100
II	BX 80-50-250	80	50	125	400	180	225	–	65	125	95	320	250	M12	M12	370	100
II	BX 80-50-315	80	50	125	400	225	280	–	65	125	95	345	280	M12	M12	370	100
II	BX 100-65-315	100	65	125	400	225	280	25	80	160	120	400	315	M16	M12	370	140
II	BX 125-80-200	125	80	125	400	180	250	–	65	125	95	345	280	M12	M12	370	140
II	BX 125-80-250	125	80	125	400	225	280	–	80	160	120	400	315	M16	M12	370	140
II	BX 125-100-200	125	100	125	400	200	280	25	80	160	120	360	305	M16	M12	370	140

X-CLASS Heavy-Duty Pump – Standard pump NX for Chemicals

Dimensions

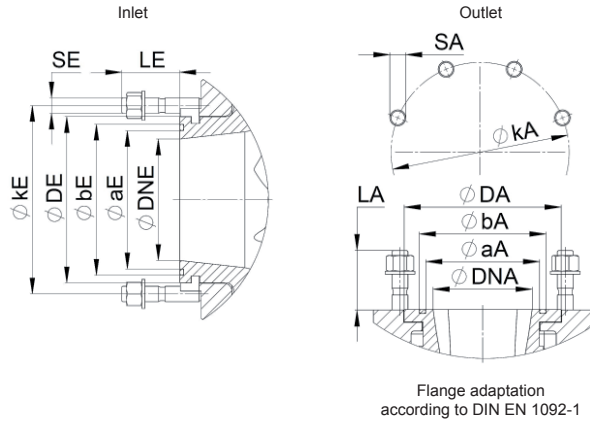
Dimensions of base plates



Size	Base plate dimensions									Space requirements for shaft DIN 529		Anchor screw DIN 529 Type C	Bore- Ø x depth Dv x v	Shear connector Ø x v1	Leveling elements			Adjust- ment screw	Type	
	B1	B2	B3	h	L1	L2	L3	h3 VA	h3 GG	ØD	e				c min.	g <sub>min</sub>	g <sub>max</sub>			Dg <sub>max</sub>
2	270	360	320	65	800	130	540	8	40	19	70	90	M16x150	Ø18x125	M16x235	45	85	51	M16x150	GLRI 50 910
3	300	390	350	65	900	150	600	8	40	19	70	90	M16x150	Ø18x125	M16x235	45	85	51	M16x150	GLRI 50 910
4	340	450	400	80	1000	170	660	10	40	24	85	110	M20x180	Ø25x170	M20x260	45	80	76	M20x150	GLRI 70 910
5	380	490	440	80	1120	190	740	10	40	24	85	110	M20x180	Ø25x170	M20x260	45	80	76	M20x150	GLRI 70 910
6	430	540	490	80	1250	205	840	10	40	24	85	110	M20x180	Ø25x170	M20x260	45	80	76	M20x150	GLRI 70 910
7	480	610	550	100	1400	230	940	12	50	28	100	130	M24x210	Ø28x210	M24x300	50	63	107	M24x150	GLRI 100 910
8	530	660	600	100	1600	270	1060	12	50	28	100	130	M24x210	Ø28x210	M24x300	50	63	107	M24x150	GLRI 100 910
9	600	730	670	100	1800	300	1200	12	50	28	100	130	M24x210	Ø28x210	M24x300	50	63	107	M24x150	GLRI 100 910
10 (1)	700	830	770	130	2000	320	1360	12	50	28	100	130	M24x210	Ø28x210	M24x300	50	63	107	M24x150	GLRI 100 910

(1) In addition to DIN EN ISO 3661

### Dimensions spigot



Pump type NX			Inlet spigot dimensions							Outlet spigot dimensions						
DNE	DNA	Ø	ØaE	ØbE	ØDE	LE	ØKE	ØSE	Quantity	ØaA	ØbA	ØDA	LA	ØkA	ØSA	Quantity
40	25	160	50.5	63.5	79.5	49.5	110	M16	4	34.5	47.5	68	44.5	85	M12	4
50	32	160	63.0	76.0	95.0	49.5	125	M16	4	44.2	57.2	76	49.5	100	M16	4
50	32	200	63.0	76.0	95.0	49.5	125	M16	4	44.2	57.2	76	49.5	100	M16	4
65	40	200	78.5	91.5	107.0	59.5	145	M16	4	50.5	63.5	88	59.5	110	M16	4
65	40	250	78.5	91.5	107.0	59.5	145	M16	4	50.5	63.5	88	59.5	110	M16	4
80	50	200	94.5	107.5	123.0	59.5	160	M16	8	63.0	76.0	97	59.5	125	M16	4
80	50	250	94.5	107.5	123.0	59.5	160	M16	8	63.0	76.0	97	59.5	125	M16	4
80	50	315	94.5	107.5	123.0	59.5	160	M16	8	63.0	76.0	97	59.5	125	M16	4
100	65	315	114.5	127.5	142.0	60.0	180	M16	8	79.0	92.0	117	59.5	145	M16	4
125	80	200	142.5	155.5	171.0	58.0	210	M16	8	94.5	107.5	131	59.5	160	M16	8
125	80	250	142.5	155.5	171.0	60.0	210	M16	8	94.5	107.5	131	59.5	160	M16	8
125	100	200	142.5	155.5	171.0	60.0	210	M16	8	114.5	127.5	158	59.5	180	M16	8
125	100	250	142.5	155.5	171.0	60.0	210	M16	8	114.5	127.5	158	59.5	180	M16	8
125	100	315	142.5	155.5	171.0	60.0	210	M16	8	114.5	127.5	157	59.5	180	M16	8
150	125	315	173.5	186.5	200.0	66.5	240	M20	8	142.5	155.5	185	59.5	210	M16	8
200	150	250	219.0	232.0	256.0	66.5	295	M20	12	174.5	187.5	209	69.5	240	M20	8
200	150	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	200	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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