

META-PLUS

HORIZONTAL, CENTRIFUGAL, VOLUTE-TYPE PUMPS

APPLICATION

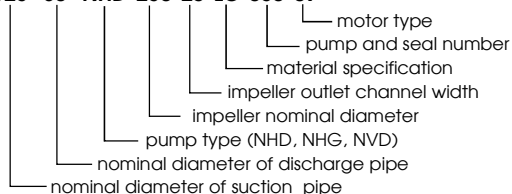
- pure or slightly polluted, active and neutral chemical liquids and combustibles
- chemical, petrochemical, pharmaceutical, food-processing and processing industries, power engineering both conventional & nuclear, water supply systems
- design:
 - A) standard - for general use
 - B) explosive conditions for pumping incombustibles in dangerous explosive conditions
 - C) for combustibles- for pumping combustible liquids in zones 1 and 2
 - D) nuclear power engineering for both secondary and primary circuits

WORKING CONDITIONS

- medium temperature range from - 40°C to +180°C (for oils and hydrocarbons up to 260°C)
- working pressure of 16 bars for sizes 1 - 36, 10 bars for size 37 - 42
- medium density range from 600 kg.m⁻³ to 1900 kg.m⁻³
- kinematic viscosity up to 75 mm².s⁻¹
- pH 0 - 14
- contents of solid particles up to 2% of weight
- particle size up to 0,5 mm

TYPE IDENTIFICATION

125- 80- NHD-250-23-LC-050-09



CONSTRUCTION

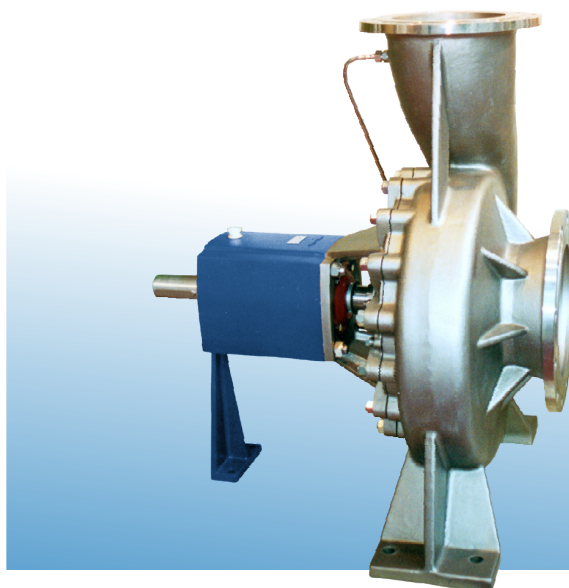
- dimensions and parameters acc. to EN 22858/ISO 2858/DIN 24 256 up to size 36 (200-150-NHD-400)
- full compliance with ISO 5199
- 40 sizes of standardized, hydrodynamic, medium-pressure pumps (series 25 and 30 not included)
- horizontal, centrifugal, single-stage, volute-type construction with an axial intake and a radial outlet
- closed impeller with diffuser guide vanes set on a pump shaft
- long service life bearings
- bearing housing connected to hydraulic unit by a lantern bracket, includes jacket for cooling or heating the area around the packing and behind the impeller
- 3 assembly arrangements grease lubrication basic arrangement (NVD), oil lubrication basic arrangement (NHD) and reinforced arrangement (NHG)
- variety of packings
- flanges PN16 acc. to EN 1092-1 and 2/ISO 7005-1/-2
- other versions upon request (cooling, heating, cooler chambers, discharge pipe flanges, coating, packings, etc.)

MATERIAL SPECIFICATION

Part name	LC	LN	LB	LY	OC	ON	OL	YC	YN	ZC	ZN
volute	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	1.0619	1.0619	1.0619	1.4308	1.4308	1.4408	1.4408
pump casing, packing flange	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	1.0619	1.0619	1.0619	1.4308	1.4308	1.4408	1.4408
impeller	EN-GJL-200	EN-GJL-200	CuSn10Zn2	1.4308	1.0619	1.0619	EN-GJL-200	1.4308	1.4308	1.4408	1.4408
seal ring	EN-GJL-200	CuSn10Zn2	EN-GJL-200	EN-GJL-200	EN-GJL-200	CuSn10Zn2	EN-GJL-200	1.4308	CuSn10Zn2	1.4408	CuSn10Zn2
lantern ring / follower	EN-GJL-200	EN-GJL-200	EN-GJL-200	stainless steel	EN-GJL-200	EN-GJL-200	EN-GJL-200	stainless steel	stainless steel	stainless steel	stainless steel
packing bushing	EN-GJL-200*	EN-GJL-200*	EN-GJL-200*	stainless steel	1.0619*	1.0619*	1.0619*	stainless steel	stainless steel	stainless steel	stainless steel
shaft	1.0503	1.0503	1.0503	1.0503	1.0503	1.0503	1.0503	stainless steel	stainless steel	stainless steel	stainless steel
impeller nut	1.0503	1.0503	1.0503	stainless steel	1.0503	1.0503	1.0503	stainless steel	stainless steel	stainless steel	stainless steel
lantern bracket	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200
bearing housing	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200	EN-GJL-200

The above table states the basic material specifications: if applicable, other material combinations optional depending on pumped medium.

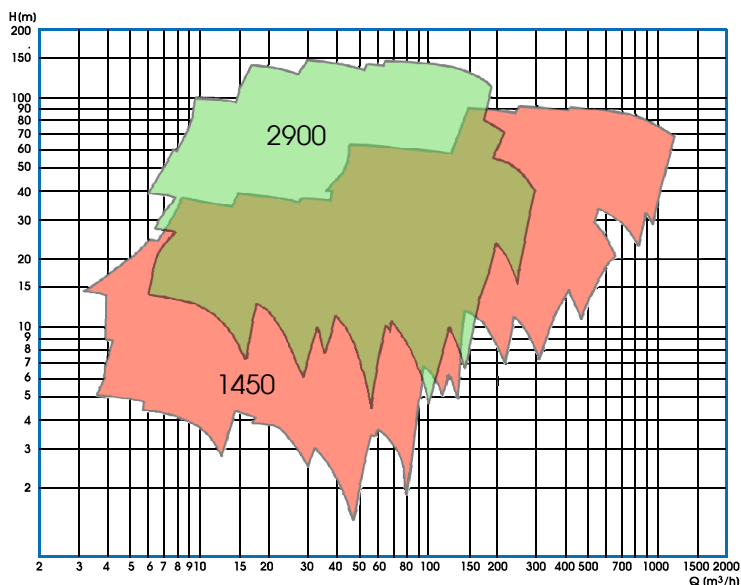
*for mechanical seal - stainless steel



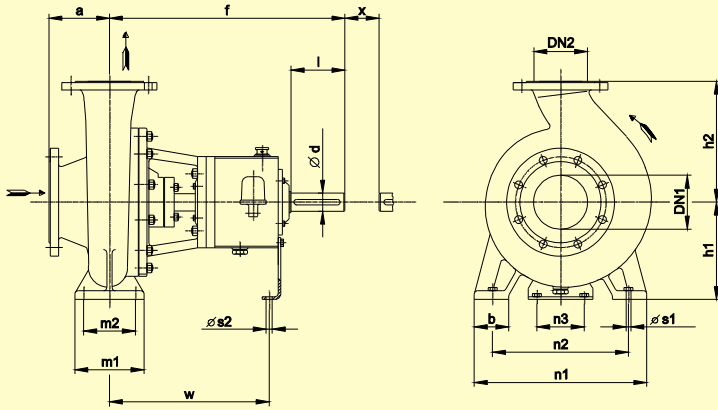
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WORKING AREA

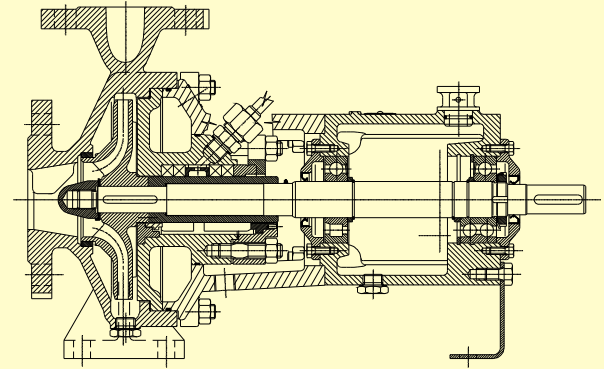
PUMP SIZE	SHAFT SPEED (r.p.m.)	FLOW Q (l/s)	DELIVERY HEAD H (m)	TEMPERATURE MAX. (°C)
from 50-32-NHD-125 to 300-250-NHD-500	1450 2900	from 0,5 to 280	from 2,5 to 160	180 (260)



BASIC DIMENSIONS



CROSS-SECTION DRAWING



Pos.	DN1	DN2	Ø impeller	Pump				Feet						Shaft			kg			
				a	f	h1	h2	b	m1	m2	n1	n2	n3	w	Ø s1	Ø s2		d	l	x ¹⁾
1	50	32	125	80	385	112	140	50	100	70	190	140	110	285	14	14	24	50	100	28
2	50	32	160	80	385	132	160	50	100	70	240	190	110	285	14	14	24	50	100	36
3	50	32	200	80	385	160	180	50	100	70	240	190	110	285	14	14	24	50	100	43
4	50	32	250	100	500	180	225	65	125	95	320	250	110	370	14	14	32	80	100	61
5	65	50	125	80	385	112	140	50	100	70	210	160	110	285	14	14	24	50	100	34
6	65	50	160	80	385	132	160	50	100	70	240	190	110	285	14	14	24	50	100	37
7	65	40	200	100	385	160	180	50	100	70	265	212	110	285	14	14	24	50	100	46
8	65	40	250	100	500	180	225	65	125	95	320	250	110	370	14	14	32	80	100	77
9	65	40	315	125	500	200	250	65	125	95	345	280	110	370	14	14	32	80	100	100
10	80	65	125	100	385	132	160	50	100	70	240	190	110	285	14	14	24	50	100	37
11	80	65	160	100	385	160	180	50	100	70	265	212	110	285	14	14	24	50	100	40
12	80	50	200	100	385	160	200	50	100	70	265	212	110	285	14	14	24	50	100	50
13	80	50	250	125	500	180	225	65	125	95	320	250	110	370	14	14	32	80	100	80
14	80	50	315	125	500	225	280	65	125	95	345	280	110	370	14	14	32	80	100	102
15	100	80	125	100	385	160	180	65	125	95	280	212	110	285	14	14	24	50	100	42
16	100	80	160	100	500	160	200	65	125	95	280	212	110	370	14	14	32	80	100	65
17	100	65	200	100	500	180	225	65	125	95	320	250	110	370	14	14	32	80	140	70
18	100	65	250	125	500	200	250	80	160	120	360	280	110	370	18	14	32	80	140	85
19	100	65	315	125	530	225	280	80	160	120	400	315	110	370	18	14	42	110	140	134
20	125	80	160	125	500	180	225	65	125	95	320	250	110	370	14	14	32	80	140	70
21	125	80	200	125	500	180	250	65	125	95	345	280	110	370	14	14	32	80	140	75
22	125	80	250	125	500	225	280	80	160	120	400	315	110	370	18	14	32	80	140	108
23	125	80	315	125	530	250	315	80	160	120	400	315	110	370	18	14	42	110	140	140
24	125	80	400	125	530	280	355	80	160	120	435	355	110	370	18	14	42	110	140	183
26	125	100	200	125	500	200	280	80	160	120	360	280	110	370	18	14	32	80	140	87
27	125	100	250	140	530	225	280	80	160	120	400	315	110	370	18	14	42	110	140	143
28	125	100	315	140	530	250	315	100	200	150	400	315	110	370	18	14	42	110	140	168
29	125	100	400	140	530	280	355	80	160	120	500	400	110	370	23	14	42	110	140	207
31	150	125	250	140	530	250	355	100	200	150	400	315	110	370	18	14	42	110	140	130
32	150	125	315	140	530	280	355	100	200	150	500	400	110	370	23	14	42	110	140	157
33	150	125	400	140	530	315	400	100	200	150	500	400	110	370	23	14	42	110	140	202
34	200	150	250	160	530	280	375	100	200	150	500	400	110	370	23	14	42	110	180	160
35	200	150	315	160	670	315	400	100	200	150	550	450	140	500	23	18	48	110	180	218
36	200	150	400	160	670	315	450	100	200	150	550	450	140	500	23	18	48	110	180	260
37	200	150	500	180	670	375	500	100	200	150	550	450	140	500	23	18	48	110	180	334
38	250	200	315	200	670	355	450	100	200	150	550	450	140	500	23	18	48	110	180	267
39	250	200	400	200	670	355	500	100	200	150	550	450	140	500	23	18	48	110	180	297
40	250	200	500	200	770	425	560	100	200	150	660	560	140	585	23	18	80	140	180	404
41	300	250	400	200	770	425	600	130	260	190	800	670	140	585	27	18	80	140	180	377
42	300	250	500	200	770	475	670	130	260	190	800	670	140	585	27	18	80	140	180	450

SEAL DESIGN

- ▮ soft cord packing
- ▮ single mechanical seal
- ▮ double mechanical seal
- ▮ single mechanical seal, cartridge type
- ▮ double mechanical seal, cartridge type
- ▮ single outer mechanical seal
- ▮ double gas mechanical seal

MOTORS

- ▮ foot-mounted electric motor drive
- ▮ diesel engine drive
- ▮ petrol engine drive
- ▮ driving force is transmitted using a flexible coupling
 - flexible coupling without a spacer
 - flexible coupling with a spacer
- ▮ common base plate assembly, cast iron
 - common subframe assembly, welded type