

NS SERIES

Non Metallic End-Suction Centrifugal Pumps

GFRPP | CFRPVDF

ANTICO



MECHANICAL SEAL | GLAND PACKING

Corrosion Resistant Chemical Pumps

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Non Metallic Chemical Process Pumps

PRODUCT OVERVIEW

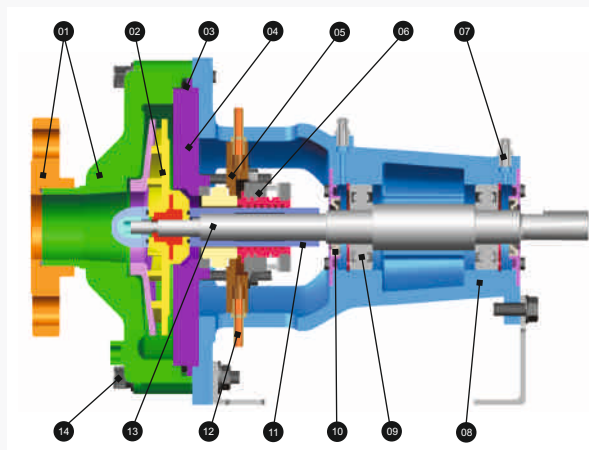
NS Series pumps are injection moulded, horizontal, side discharge, back pull-out, volute casing type, single stage, end suction centrifugal pumps. NS Series pumps are specifically designed to pump general chemicals up to specific gravity of 1.3; best suited for electroplating, filtration, scrubbing, loading and unloading applications.

TECHNICAL DATA

Operating Frequency		50 Hz [60 Hz]
Capacity [Q]	up to	30 m ³ /hr [132 US gpm]
Head [H]	up to	30 m [98 ft]
Motor Power [P]	up to	3.7 kW [5 hp]
Viscosity	up to	80 mPas [80 cP]
Suction Lift	up to	8 m [26 ft] with priming chamber*
Maximum Working Pressure		6 bar [87 psi]
Maximum Specific Gravity [SG]		1.3
Minimum Continuous Flow [MCF]		2 m ³ /hr [9 US gpm]
Maximum Temperature		PP : 82°C [180°F], GFRPP: 90°C [194°F], CFRPVDF: 110°C [230°F]
Suction & Delivery Connection		ANSI B16.5 - Class 150, DIN 2501, BS4504 - PN16, BSP or NPT*
Shaft Seal		Single Mechanical Seals & Gland Packing
Bearings		Rolling Element Bearings
Lubrication		Grease
Motor Compatibility		IS 1231, IEC 72-1, NEMA*

*available on request

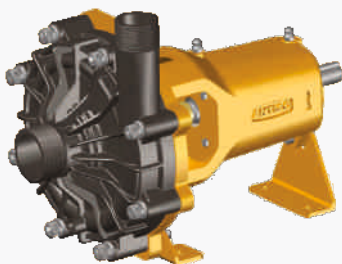
MATERIALS



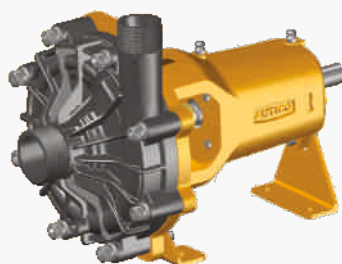
Casing & Flanges 01	PP ¹ / GFRPP ² / CFRPVDF ³
Impeller 02	PP / GFRPP / CFRPVDF
O-Rings 03	FKM / FFKM / EPDM / TFE-P
Casing Cover 04	PP-H / GFRPP / CFRPVDF
Seal Cover 05	FRP ⁴
Mechanical Seal (Stationary & Rotary) 06	Ceramic / SiC ⁵ / GFT ⁶ / Carbon
Grease Nipple 07	Stainless Steel
Bearing Bracket 08	Cast Iron*
Rolling Element Bearings 09	Carbon Chromium Steel
Oil Seals 10	Chlorobutadiene Rubber
Sleeve 11	Ceramic / SiC / FRP / Super Alloys
Male Hose Barb Nipple 12	Brass
Shaft 13	Stainless Steel
Fasteners 14	Stainless Steel

1 - Polypropylene, 2 - Glass Fibre-Reinforced PP, 3 - Carbon Fibre-Reinforced Polyvinylidene Fluoride, 4 - Fibre-Reinforced Plastic, 5 - Silicon Carbide, 6 - Glass Filled Polytetrafluoroethylene

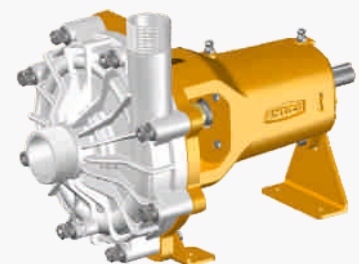
* - with high grade 2C corrosion protection paint. Special coatings available on request



GFRPP : Suitable for Aggressive Media up to 90°C (194°F)



CFRPVDF : Suitable for Corrosive, Hazardous Media up to 110°C (230°F)



PP : Available on Request

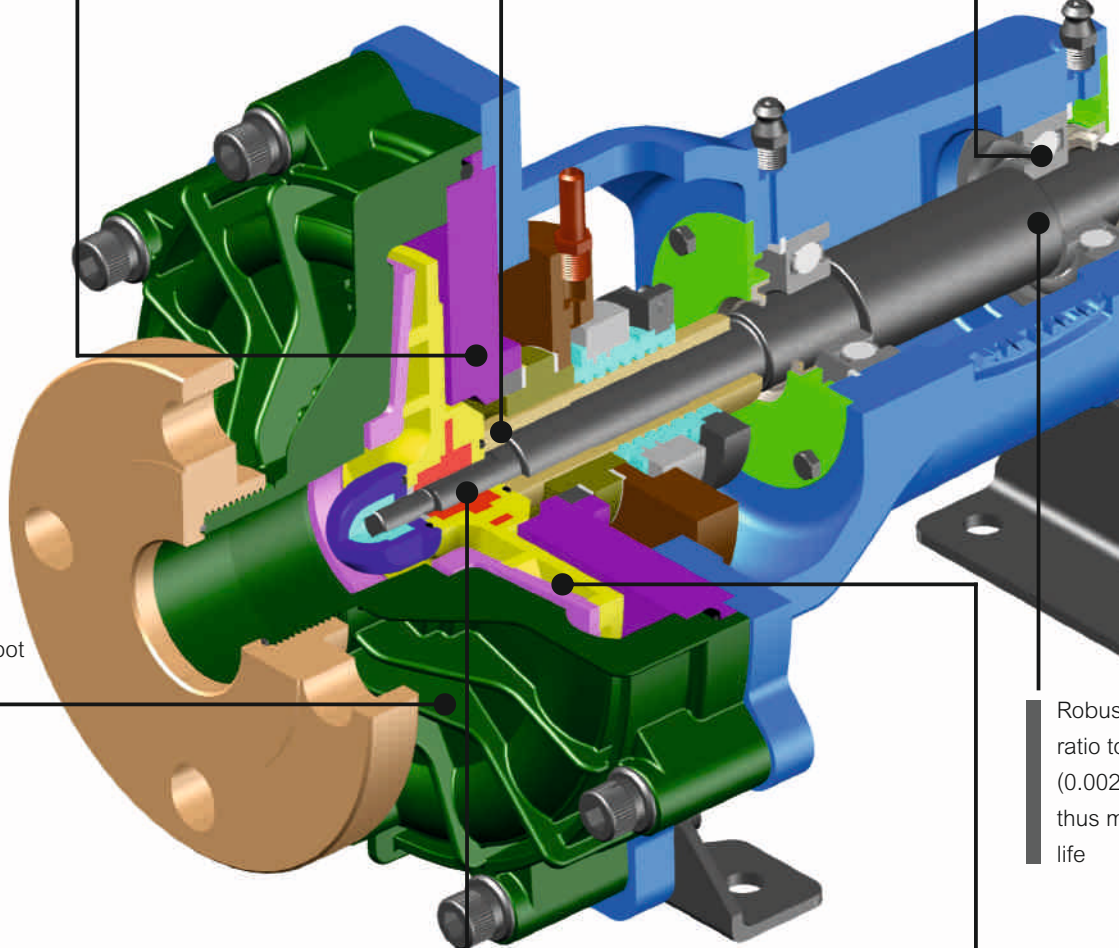
DESIGN FEATURES

- Volute Casing
- Flanges
- Impeller
- Impeller Insert
- Casing Cover
- O-Rings
- Shaft & Key
- Sleeve
- Bush
- Stationary Unit
- Rotary Unit
- Gasket
- Seal Cover
- Hose Barb Nipple
- Bearing Cover (IB)
- Bearing Pedestal
- Bearings & Oil Seal
- Bearing Cover (OB)
- Grease Nipple
- Fasteners & Support Foot

Injection molded casing cover accommodates seals and packings

Stepped sleeve aids proper sealing at the impeller rear side

Bearings can handle dynamic loads for long lifetime (175,000 hours)



Light weight, sturdy, efficient volute casing design in non metallic construction provides smooth flow of pumping media

Innovative positive locking methodology to prevent failure due to wrong rotation

Robust design with a strength-to-weight ratio of 0.002, thus maximizing service life

Hydrodynamic design of the semi-open impeller provides optimum performance with low NPSH requirement and low noise levels



Impeller Locking Mechanism

Prevents catastrophic failure in case of reverse rotation



Drain Plug

Drain plug with quick connect coupling allows swift drainage of hazardous liquids



Volute Casing

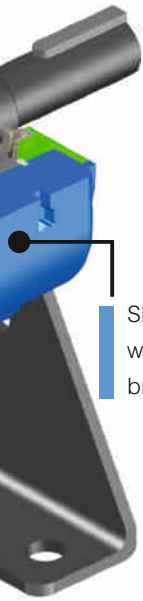
Thin walled, injection moulded, side discharge volute casing with radial ribs to handle hydraulic forces



Optional impeller with effective design

SEAL OPTIONS

able of carrying high
ds to run beyond standard
(00 hrs)



Sleek, sturdy, low weight bearing bracket

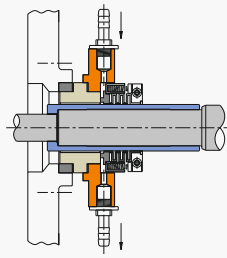
st shaft with low stiffness
o ensure less than 0.05 mm
(in) deflection at seal faces
maximizes mechanical seal

ically optimized, closed /
radial impeller designed for
suction behaviour with low
requirement
e and vibration

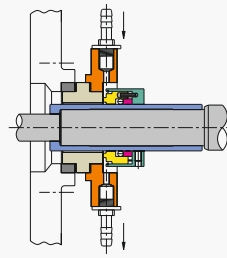


Impeller Options

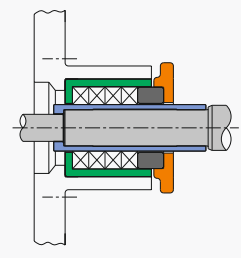
n of closed and semi-open
with efficient blade passage for
e pumping of process media



Single PTFE Bellows seal (TB)



Single Pusher Seal (RA)



Gland Packing (GP)

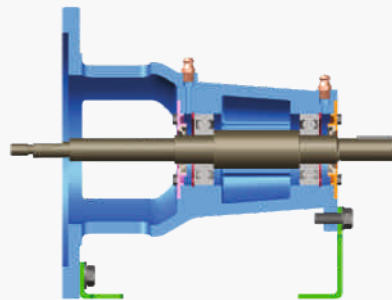
- **Type TB** is single, outside mounted seal, uses PTFE bellows as secondary seal offering universal chemical resistance for a broad range of clean & corrosive pumping media.
- **Type RA** is single, outside mounted seal, employs fluoroelastomer (FKM/FFKM) as secondary seal to handle highly corrosive & homogenous slurries.
- **Type GP** is packed with Pure PTFE lubricated material provides a dynamic seal for demanding budgets.

Operating parameters

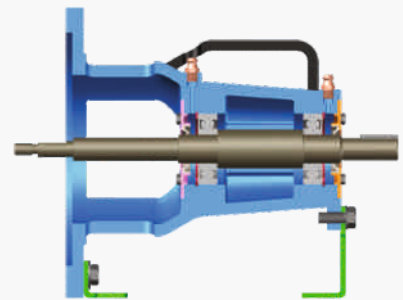
Type		TB*	RA*	GP
Pressure	up to	5 bar (75 psi)	27.6 bar (400 psi)	10 bar (150 psi)
Temperature	up to	71°C (160°F)	204°C (400°F)	280°C (572°F)
Shaft Speed	up to	10 m/s (33 fps)	23 m/s (75 fps)	10 m/s (33 fps)

*Values for Flowserve seals. Other seals available on request.

BEARING BRACKET ASSEMBLY & LUBRICATION



STANDARD



OPTIONAL (WITH HANDLE)

Bearing Bracket Assembly Features

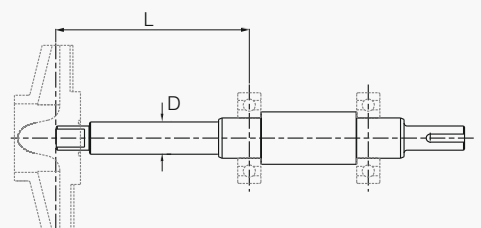
- High interchangeability between models thus lowering inventory.
- Rugged design minimizes unexpected downtime and enhances ease of assembly and maintenance.

Lubrication

- Grease lubricated bearing bracket for applications up to 120°C / 250°F uses grease nipples fitted at the pump end and drive end. Greased for life / Sealed for life bearings available on request.

SHAFT DESIGN

NS Series Shafts are designed with solid & sleeved options to have low shaft stiffness ratio (L^3/D^4) thus minimizing shaft deflection in turn promoting improved seal & bearing life. First Obstruction length (FOB) requirements of standard readily available single mechanical seals are considered in the design.

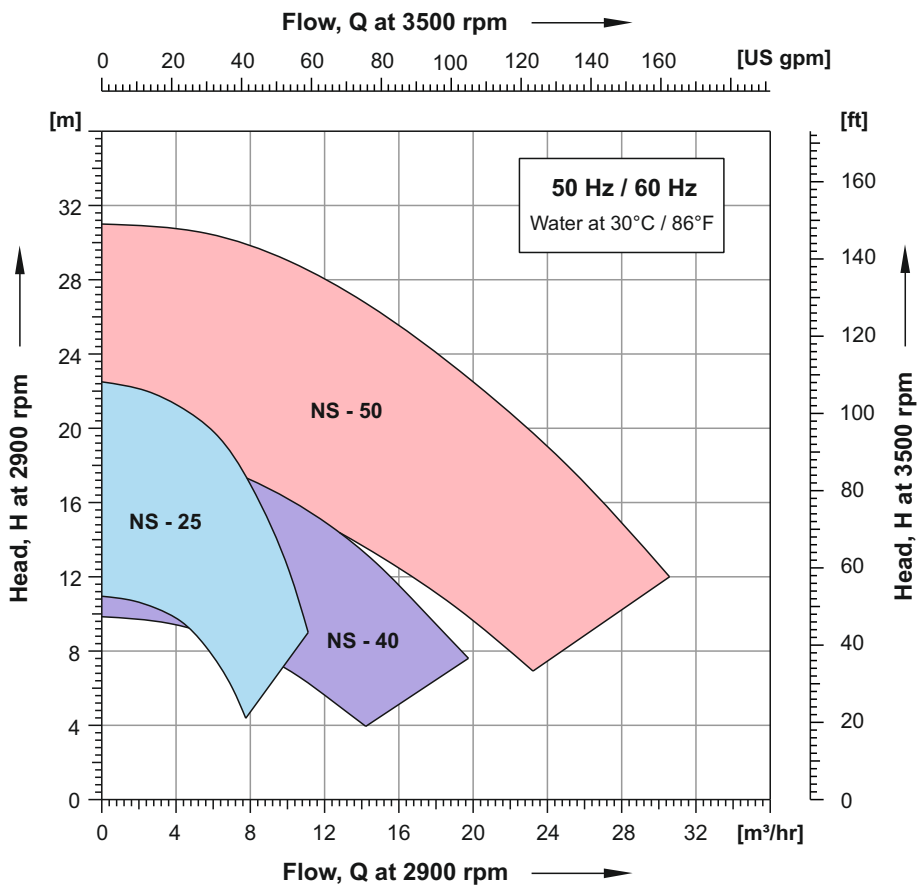
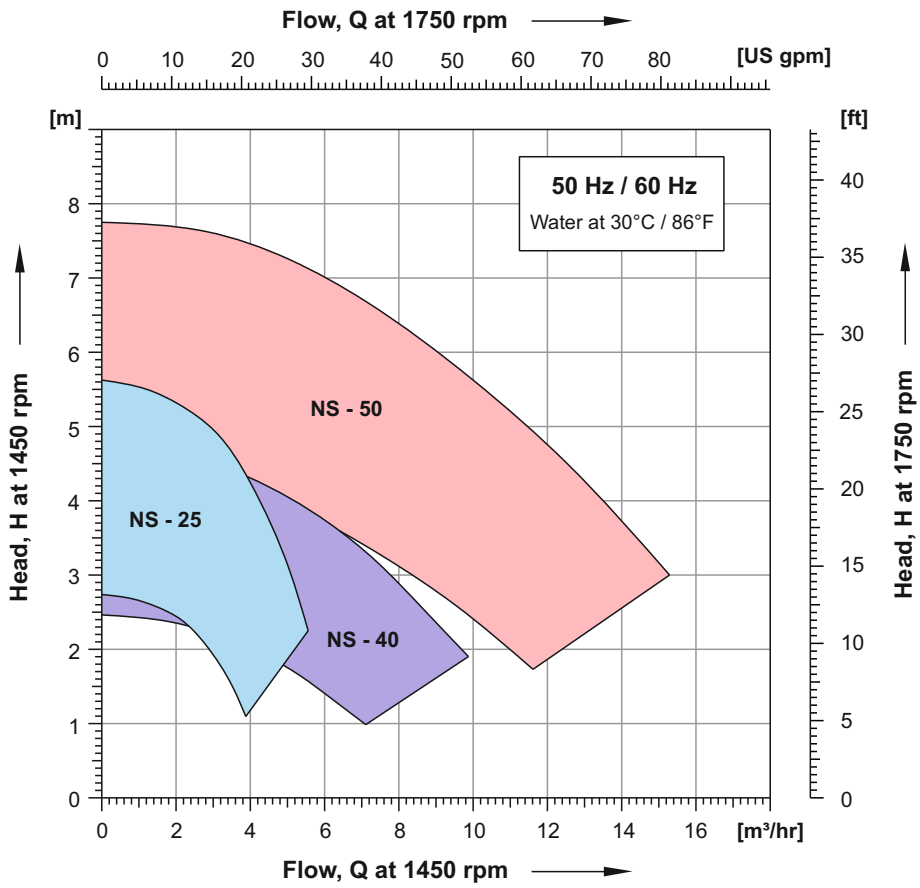


L - Distance between IB bearing center and impeller center

D - Diameter of shaft under sleeve

Shaft Stiffness Ratio (L^3/D^4)		
System of Units	Metric	Inch
Solid/Wet	4.91	124.76
Metal Sleeved	12.78	324.55
Non Metallic Sleeved	20.47	519.87

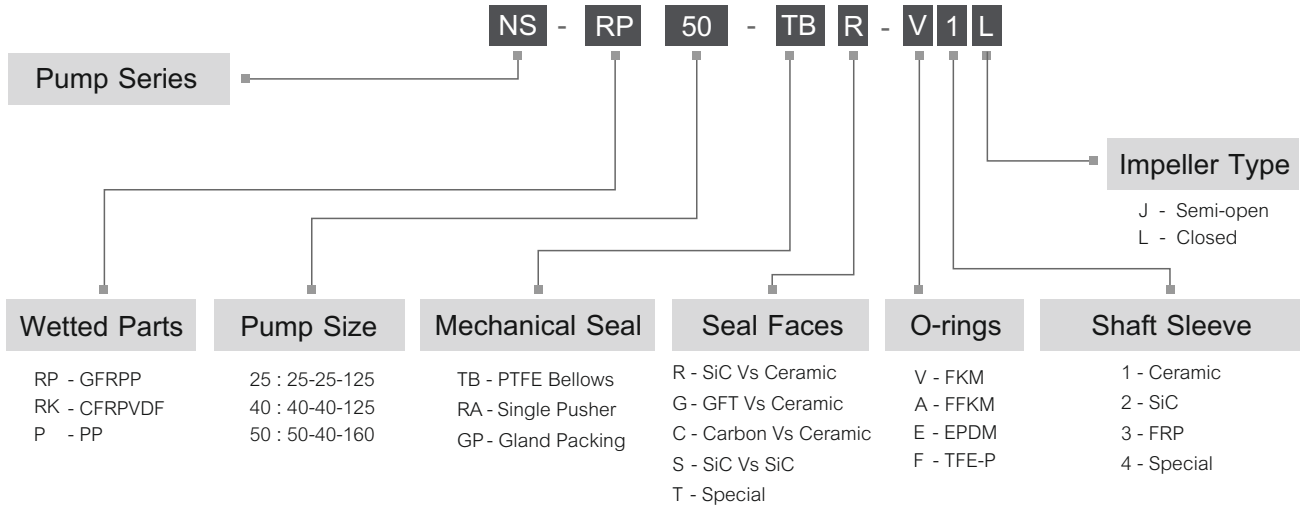
HYDRAULIC COVERAGE



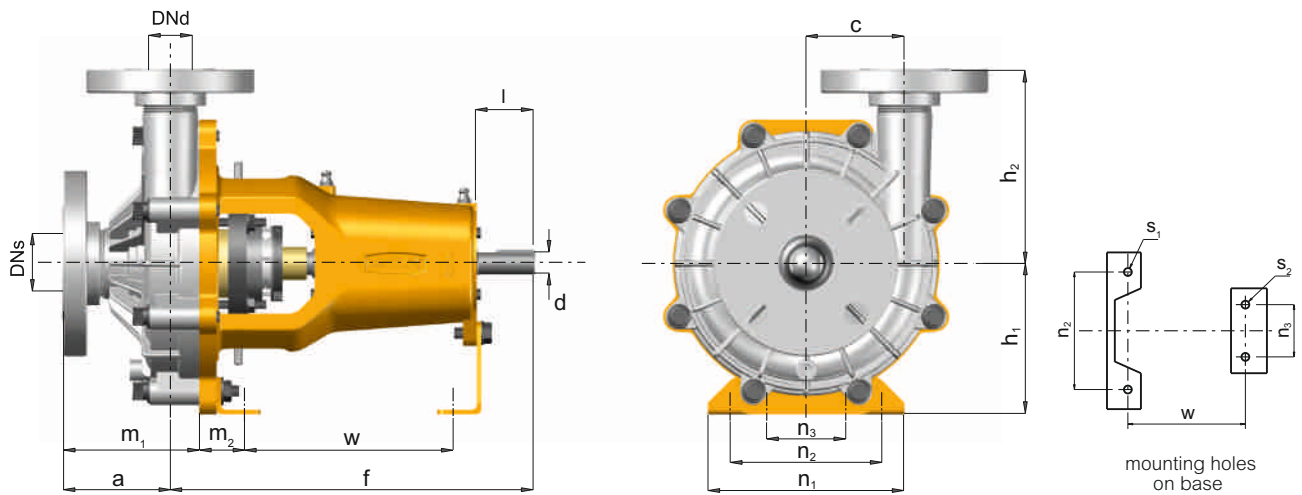
NS SERIES

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PUMP IDENTIFICATION



DIMENSIONS



MODELS	PUMP DIMENSIONS																
	DNs	DNd	a*	f	c	h ₁	h ₂ *	m ₁ *	m ₂	n ₁	n ₂	n ₃	w	S ₁	S ₂	d	l
NS - 25	25	25	85	315	70	120	140	110	37	170	130	80	185	M10	M10	19	50
NS - 40	40	40			85	130	160										
NS - 50	50	40			85	130	160										

All Dimensions in mm; * - 8 mm more length for flanged connection

ANTICO

Anticorrosive Equipment Pvt. Ltd.