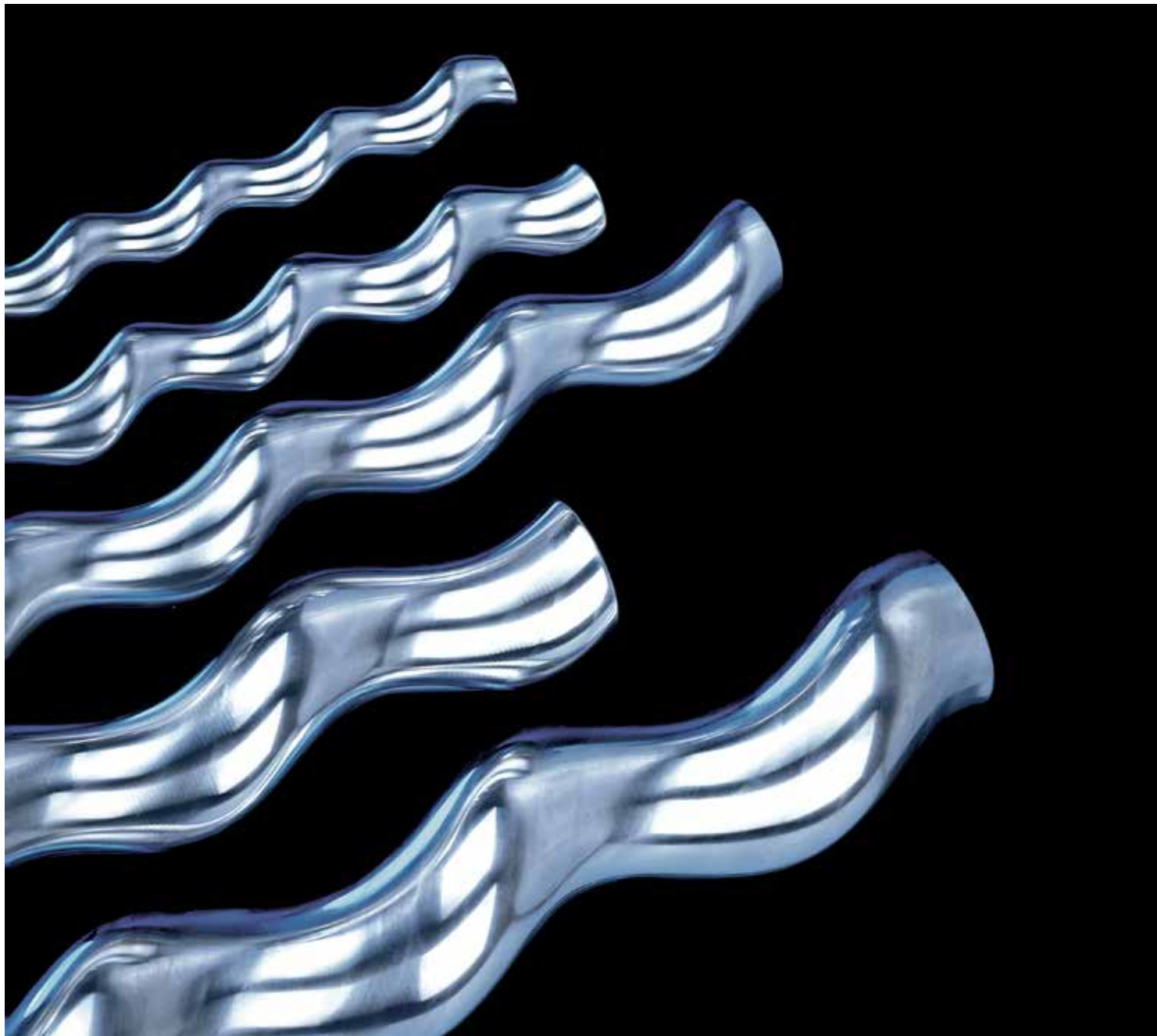


Smooth movement of high-density slurry or high-viscosity fluid.



## Smooth movement of high-density slurry and high-viscosity fluid.



The NFA-T Series are single-shaft screw pumps that are suitable for handling high-density slurry and highly-viscosity fluid. All of the major pump parts were developed by Iwaki, making it possible for a high-quality and economical pump. Moreover, low-cost types have also been prepared for models with bore of 50A or more. The NFA-T series has excellent durability and is very economical. These pumps are currently being used in a wide variety of fields, such as in water-treatment facilities, as well as in the paper manufacturing, chemical and food industries.



### Well suited for high-density slurry and high-viscosity fluid

There is truly a wide range of fluids that these pumps can handle, such as highly abrasive fluids like muddy sludge or cement mortar, fluids which contain solid or fibrous materials, fluids with a high viscosity of several hundred thousand mPa.s, or fluids for handling cake-like substances with no fluidity at all.



### Superior fixed-quantity (metering) and flow controllability

There is excellent fixed-quantity due to a good rotor and stator seal. Also, since this pump is a rotating volume pump, it is possible to easily control the flow by adjusting the rotation speed. By attaching the optional pulse generator, it is possible to control the rotation speed with higher accuracy and better response.



### Smooth transfer with no pulsation, mixing or foaming

By continuously rotating the air chamber, which is formed by the rotor and stator, the fluid is transferred smoothly without pulsation, mixing or foaming. This is the perfect kind of pump for fluids that change easily due to impact, or fluids whose particles should not be damaged.



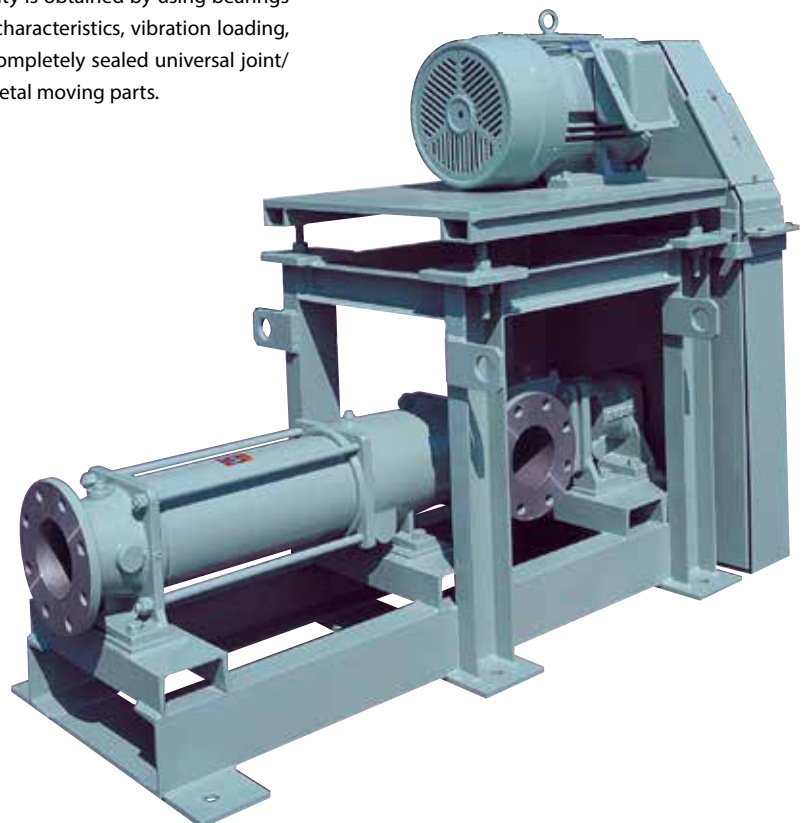
### Easy-maintenance construction

The pump has easy-to-maintain construction. The casing is divided into two parts making it possible to easily remove the rotor, remove the universal joint/Joint unit as a single unit, replace the shaft seal without having to disassemble the bearings, perform inspection easily from the side cover, etc. (Except low-cost type pumps.)



### Outstanding durability

Outstanding durability is obtained by using bearings with excellent load characteristics, vibration loading, and rigidity, and a completely sealed universal joint/Joint unit with no metal moving parts.



# Construction and materials

## Stator

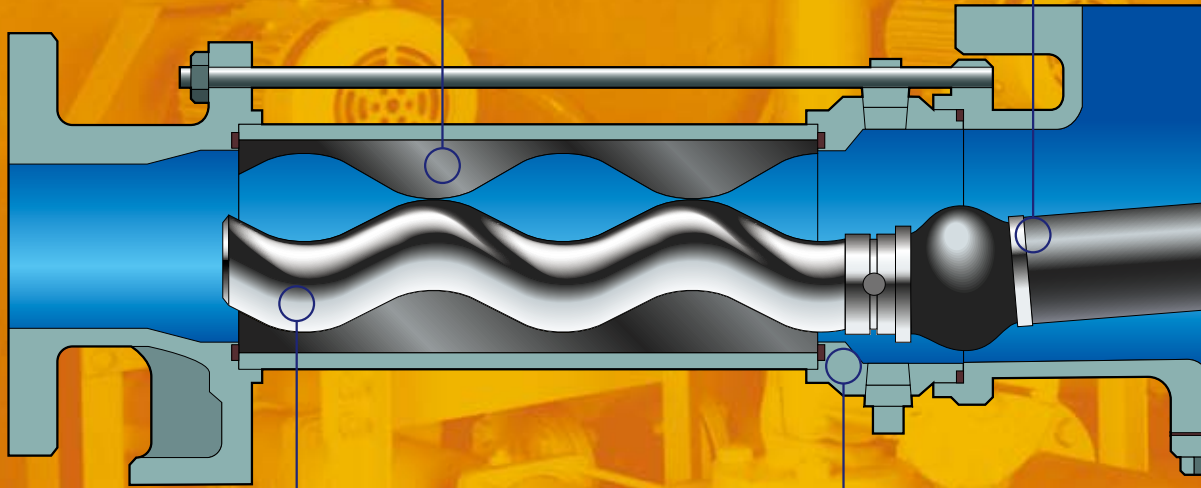
The stator is precision molded using a mold that is formed to an ideal shape by employing computer-aided design and NC processing. The pump efficiency and durability have been improved.

## Universal joint/ Joint unit

A needle bearing is used in the moving sections, making it possible to do away with moving metal parts. Moreover, it is totally sealed with synthetic rubber boots, and filled with grease. This is a maintenance-free type joint.



Joint unit



## Rotor

The rotor is very economical and has excellent accuracy due to the precision machining done by special-purpose automated machinery. Also, maintenance can be easily performed since the rotor can be removed without disassembling the universal joint.

## Stator spacer

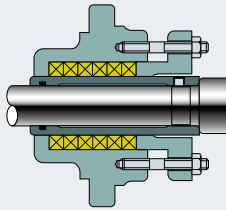
In order to make it easy to replace the rotor in large machines with bore of 65A or more, the intake casing is divided into two parts. This construction allows for convenient replacement of the rotor since there is no need to remove the intake piping. (Except low-cost type pumps.)

## Shaft seal

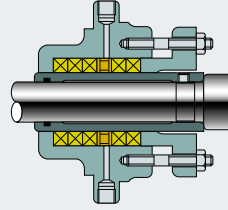
### Gland packing

Can be used with standard type as well as irrigation or continuous-flushing type pumps. In addition, a shaft sleeve is standard equipment on models with bore of 50A or more in order to simplify maintenance.

Note: There is no shaft sleeve on low-cost type pumps.



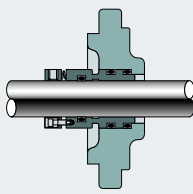
Gland packing /  
G type



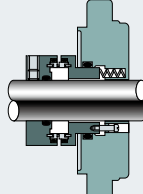
Gland packing /  
W type

### Mechanical Seal

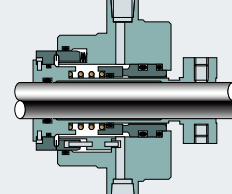
Standard type mechanical seals (M, C, or K) or special mechanical seals, such as a quenching, double, or knife-edge type seals, can be installed.



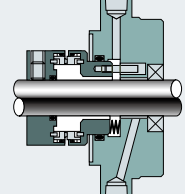
Mechanical seal /  
M, C type



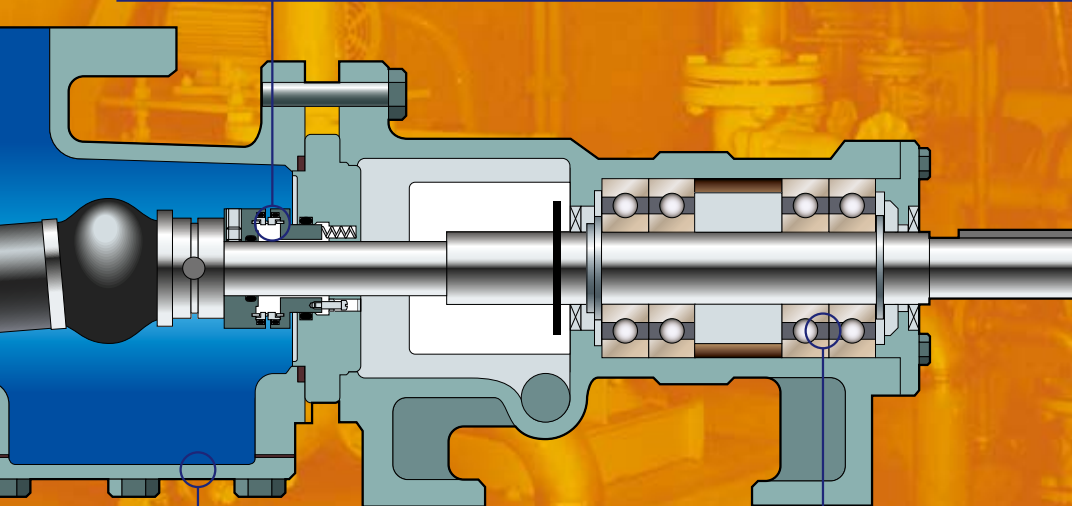
Mechanical seal /  
K type



Double mechanical seal



Quenching /  
Q type



### Side cover

The side cover, used for inspection, is standard equipment on all models with bore of 50A or more. Considering that the intake port is often located on the side of the case, the side cover is located on the side opposite of the intake port. (Except low-cost type pumps.)



### Bearing

The bearing is easily replaced because the pump shaft can be pulled out from the motor side. Also, the mechanical seal can be replaced from the side of the pump body without having to remove the shaft.

## Standard materials and their selection

Material symbol	FN2G	CN2G	CN2C	FN2K/CN2K	FN2KP/CN2KP	
Material for liquid contacting parts	Pump body	FC250				
	Stator	NBR				
	Rotor	SKS + HCr				
	Universal joint / Joint unit	F : S45C / NBR (Universal joint) C : S45C / SUS201 / NBR (Joint unit)				
	Pump shaft	S45C	S45C + HCr	S45C		
	Gland packing	Carbonized fiber			—	
	Mechanical seal	—		Super-hard alloy	Super-hard alloy (External mount type)	
Shaft sleeve	S45C	—		—		
<b>For slurry</b>						
Application	• High-viscosity slurry		• Abrasive low-viscosity slurry	• Abrasive slurry • Fibrous slurry	• Abrasive slurry • Long-fiber slurry	
Example of usable fluid	• Surplus sludge • Concentrated sludge • Waste oil sludge		• Lime slurry • Metal slurry	• Sludge • Concentrated sludge • Activated carbon slurry • Metal slurry	• Digested sludge • Waste sludge	

Material symbol	SN4G	UN4G	SN4K/SN4KP	SN4KP/UN4KP	UN4M	UN4C	
Material for liquid contacting parts	Pump body	SCS13					
	Stator	NBR					
	Rotor	SUS304 + HCr					
	Universal joint / Joint unit	S : SUS316 / NBR (Universal joint) U : SUS304 / SUS201 / NBR (Joint unit)					
	Pump shaft	SUS304 + HCr		SUS304			
	Gland packing	Carbonized fiber			—		
	Mechanical seal	—		Super-hard alloy (External mount type)	Carbon / Ceramic	Super-hard alloy	
Shaft sleeve	SUS304 + HCr	—		—		—	
<b>For chemical</b>							
Application	• High-viscosity fluid • Slurry		• Low-viscosity fluid • Abrasive slurry	• Long-fiber slurry	• Low-viscosity fluid (no slurry)	• Abrasive low-density slurry	
Example of usable fluid	• Solution for paper manufacturing • Corrosive waste fluid		• Solution for paper manufacturing • Magnesium hydroxide slurry • Corrosive waste fluid	• Solution for paper manufacturing • Corrosive waste fluid	• Chemical solution	• Calcium carbonate slurry • Clay	

Note : There is no shaft sleeve for models NFA-T20/T32, and the pump shaft material is S45C+HCr or SUS304+HCr.

## Specifications

Model	Connection	Theoretical discharge flow rate L/100rpm	Maximum allowable speed rpm	Max. Capacity L/min	Max. discharge pressure MPa	Required power range kW
NFA-T20	Rc3/4	1.35	1,500	19	0.6	0.2 - 0.75
NFA-T32	Rc1 1/4	3.6	1,200	40		0.4 - 1.5
NFA-T50	JIS10K50A	11	1,000	98		0.4 - 2.2
NFA-T65	JIS10K65A	26	900	220		0.75 - 5.5
NFA-T80	JIS10K80A	50	800	380		1.5 - 7.5
NFA-T100	JIS10K100A	90	700	620		2.2 - 11
NFA-T125	JIS10K125A	220	600	1,300	0.5	5.5 - 22

Note 1: The maximum discharge flow rate is the value which occurs at the maximum speed at a discharge pressure of 0.2 MPa.

Note 2: The specifications above are for 1 stage type pump. Please make inquiries regarding the specifications for 2 stage pump.

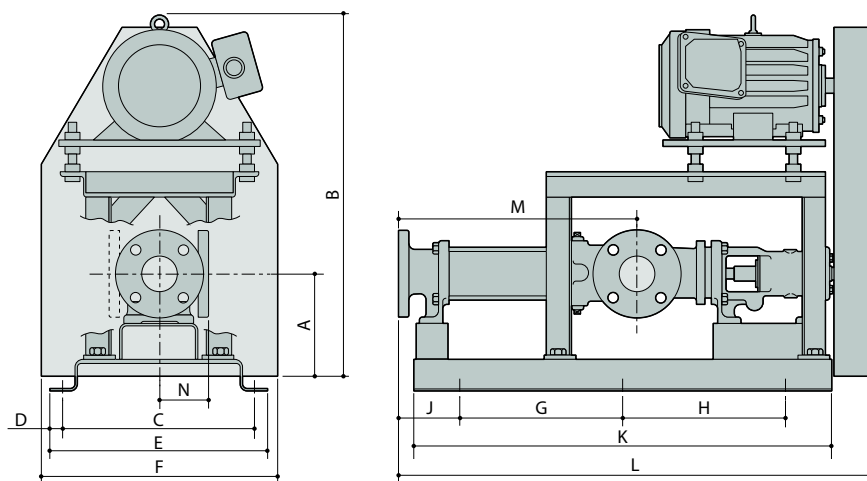
## Pump identification

**2 NFA-T 65 C N 4 M P X - 22 B 16 X**

- ① No. of stages  
No symbol : 1 stage (Caliber : 20 - 125)  
2 : 2 stages (Caliber : 20 - 80)
- ② Series name
- ③ Bore size  
65 : 65A  
80 : 80A, etc.  
(20 is Rc3/4, and 32 is Rc1 1/4.)
- ④ Body material  
F : FC  
with window and stator spacer  
C : FC (low-cost type)  
without window and stator spacer  
S : SCS13  
with window and stator spacer  
U : SCS13 (low-cost type)  
without window and stator spacer  
X : Other<sup>Note1</sup>
- ⑤ Stator material  
N : NBR  
H : CSM<sup>Note1</sup>  
V : FKM<sup>Note1</sup>  
X : Other<sup>Note1</sup>
- ⑥ Rotor material  
1 : SKS  
2 : SKS+HCr  
4 : SUS304+HCr  
5 : SKD<sup>Note1</sup>  
6 : SKD+HCr<sup>Note1</sup>  
9 : Other<sup>Note1</sup>
- ⑦ Shaft seal  
M : Mechanical seal<sup>Note3</sup>(Carbon x Ceramic)  
C : Mechanical seal<sup>Note3</sup>(Super hard x Super hard)  
K : Mechanical seal  
(Spring external-mount type, Super hard x Super hard)  
Q : Quenching type machanical seal<sup>Note1</sup>  
G : Gland packing (Graphite + Asbestos)  
W : Irrigation type gland packing<sup>Note1</sup>  
X : Other<sup>Note1</sup>
- ⑧ Special specifications  
No symbol : Standard  
P : Tangle-proof type
- ⑨ Special pump specifications  
X : Other special specifications<sup>Note1</sup>
- ⑩ Motor output  
02 : 0.2kW  
07 : 0.75kW  
37 : 3.7kW, etc.
- ⑪ Motor types  
B : Bayer variable speed motor (A type)  
R : Ringcone variable speed motor (NRXMK)  
G : Geared motor  
N : Other variable speed motor<sup>Note1</sup>  
F : Inverter motor,  
Inverter geared motor<sup>Note2</sup>  
M : 4-pole general-purpose motor  
S : 6-pole general-purpose motor  
X : Other drive<sup>Note1</sup>
- ⑫ Drive method  
10 - 99 : Standard V-belt drive (code No.)  
C : Direct coupling<sup>Note1</sup>  
X : Other drive method<sup>Note1</sup>
- ⑬ Other  
No symbol : Standard  
X : Non-pump related specifications  
Numbers : Speed ratio when directly connected to the coupling

Note1 : Special specifications  
Note2 : For IE motors, select "F" when using an inverter.  
Note3 : Low cost type only

## Dimensions in mm



1 stage

mm

Model	Suction • Discharge		A	B	C	D	E	F	G	H	J	K	L	M	N
NFA-T20	Rc 3/4	JIS10K20A RF	197	(585)	390	25	440	—	335	—	88	490	(563)	267	50
NFA-T32	Rc 1 1/4	JIS10K32A RF		(610)					365		91	535	(611)	324	60
NFA-T50	JIS10K50A		212	(691)					570	106	730	(817)	376	90	
NFA-T65	JIS10K65A		238	(766)	680	118	835	(956)	480	100					
NFA-T80	JIS10K80A		290	(848)	440	490	430	103	1030	(1158)	615	125			
NFA-T100	JIS10K100A			(908)	450	500	(543)	475	495	110	1165	(1295)	694		

- The B dimension of NFA-T20 to T100 type is with a general-purpose motor made by Mitsubishi.
- The M / N dimensions of NFA-T20 and T32 types are the dimensions when the suction and discharge are screws.
- Please contact us for the dimensions of NFA-T125 and 2 stages.
- Please contact us for the dimensions of the vertical type.

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Germany	: IWAKI Europe GmbH	TEL: (49)2154 9254 50	FAX: 2154 9254 55	Argentina	: IWAKI America Inc. (Argentina Branch)	TEL: (54)11 4745 4116	
The Netherlands	: IWAKI Europe GmbH (Netherlands Branch)	TEL: (31)74 2420011	FAX: (49)2154 925448	Brazil	: IWAKI Do Brazil Comercio De Bombas Hidraulicas LTDA.	TEL: (55)19 3244 5900	FAX: 19 3244 5900
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**Caution for safety use:**

Before use of pump, read instruction manual carefully to use the product correctly.

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