Catalog No. 2093R3

ISO 9001
HIGASHIMURAYAMA PLANT

NIKKISO NON-SEAL® PUMP
MULTI-STAGE TYPE

NIKKISO CO., LTD.

NIKKISO

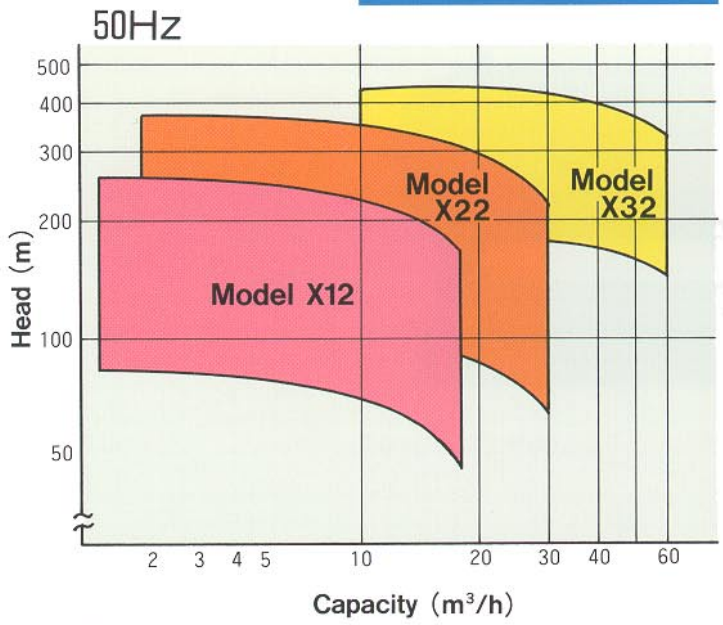
NON-SEAL® PUMP MULTI-STAGE TYPE

We "NIKKISO" have thoroughly redesigned the Nikkiso Non-Seal® pump multi-stage type, greatly improving their performance by dramtically increasing pump efficiency, and accurately balancing the axial thrust over the entire range of flow by using a balancing disk seat. Furthermore, up to 132kW slim motors have been added to the Series to meet a broad range of applications. The pumps are compact, easy to disassemble and re-assemble, and all maintenance can be done in the field. We are sure that the Nikkiso Non-Seal® pump multi-stage type restyled satisfy by the pioneer (NIKKISO) of canned motor pumps, will fully satisty the expectations of our customers.

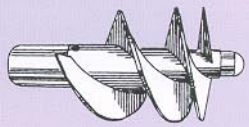
Enhanced efficiency
The efficiency of the newly-designed pumps and slim-motor pumps has been enhanced by more than 10%, offering greatly energy-saving. (comparing with our previous type)

Performance

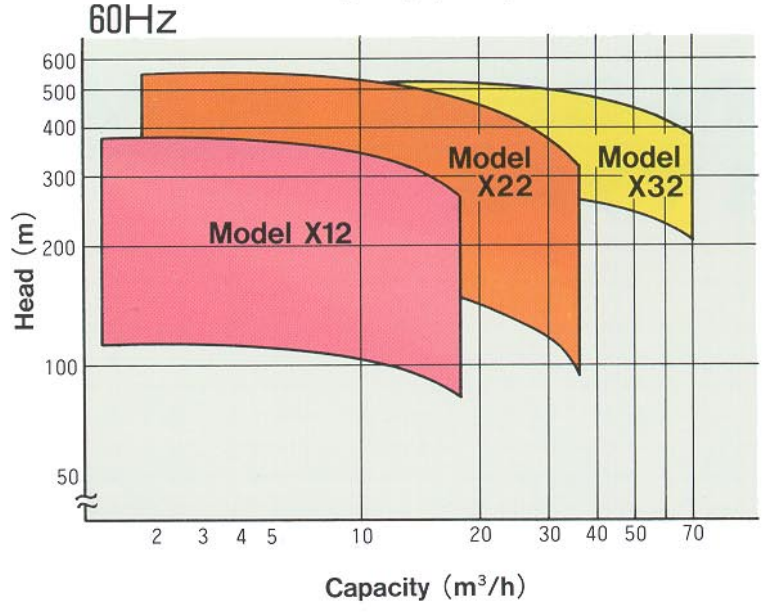
50Hz



Inducer (optional)
The inducer enables a low NPSHR of 1.0m or less.



60Hz



Specifications

- **Pumping temperature:** −30°C～
- **Viscosity:** Max. 140mPa·s
- **Design pressure:** 2～8MPa
- **Liquid-contacting material:** Cast
- **Motor output:** 5.5～132kW
- **Explosion-proof:** Flame-proof (o
  Increased safet

Structure and Features

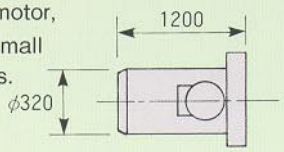
Compact design → Short shaft → Small vibrations and low noise → Reduced load on bearings → Long-life bearing

Fewer pump stages.

We have succeeded in reducing the number of stages by using a high-efficiency, low Ns impeller and by developing a new radial diffuser.

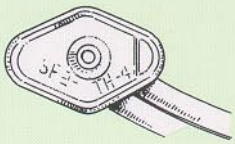
Slimmer, even more compact motors! (patent pending)

A 132kW motor, yet such small dimensions.



Thermostat

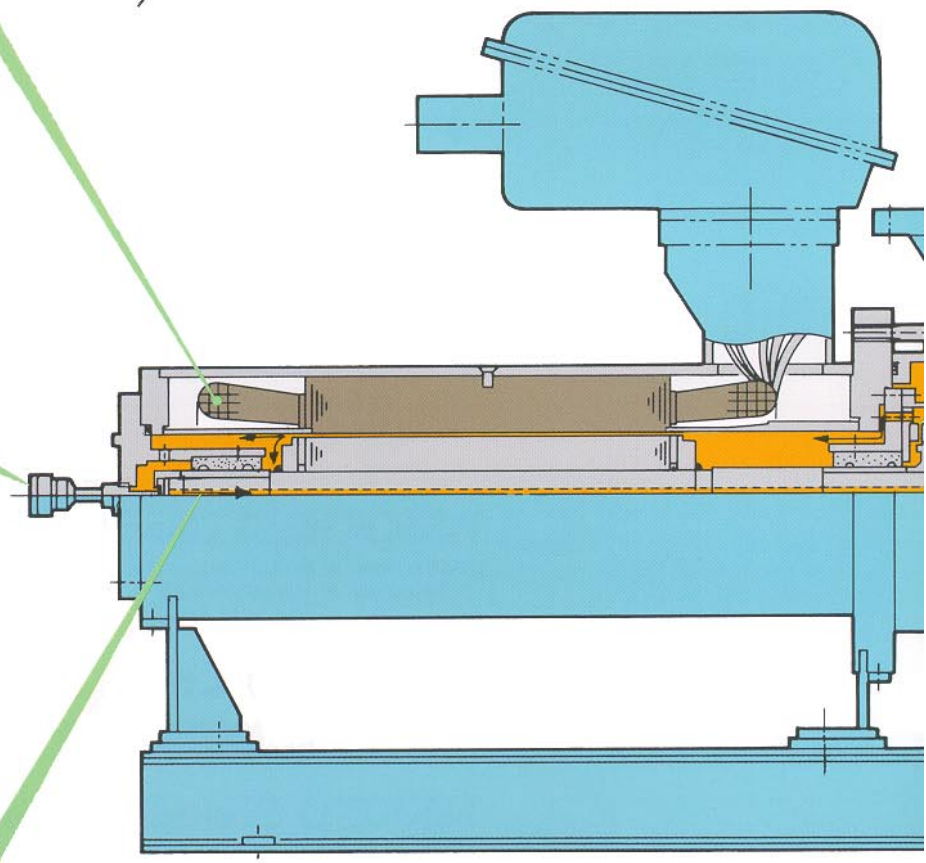
Embedded in the hot spot of the windings for protection against overheating.



Bearing monitor

(many patents)

All type of Non-Seal® pumps are equiped with bearing monitor (mechanical type). The purpose of the bearing monitor is to check abnormal wear of bearing and can cossosion from the outside while the pump is operating and to give warning of measures required.



+150°C

steel, stainless steel.

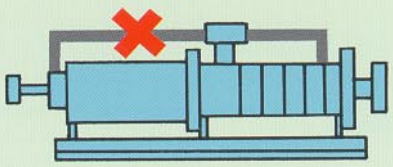
tdoor type) d2G3
y eG3

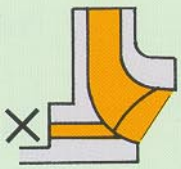
Internal circulation system

(patent pending)

Completely sealless!

The circulation tube has been removed to ensure greater safety and minimize the risk of leaks.



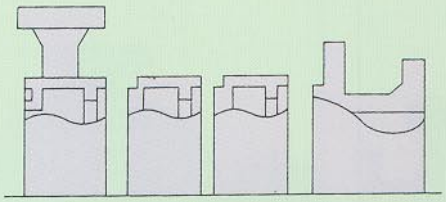


Balancing disk balances the fl over the entire

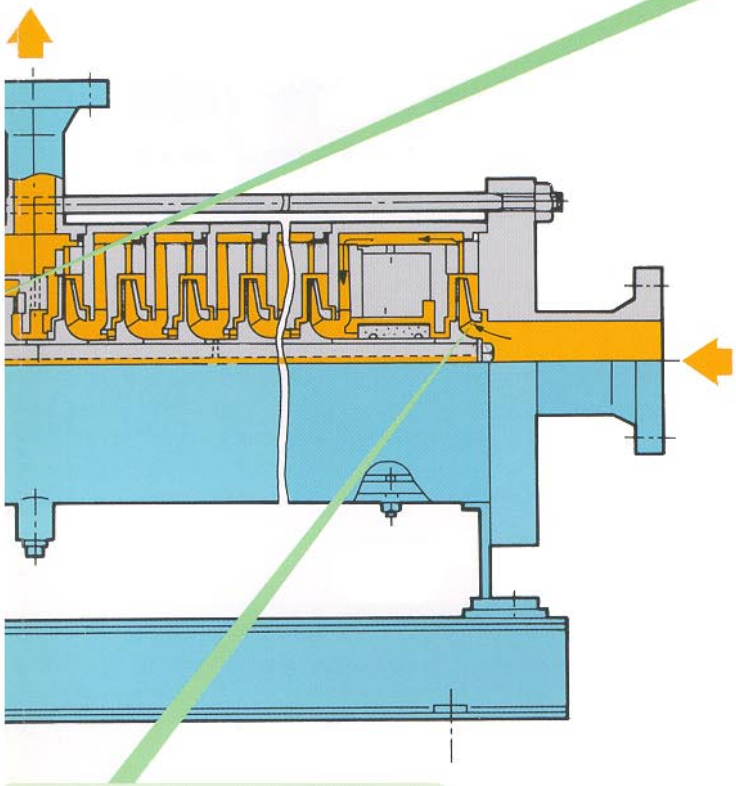
- No impeller balancing hole provided.
- No internal liquid leak.
- **Increased efficiency** (step 1
- **Improved NPSHR**

Easy to disassemble and re-assemble

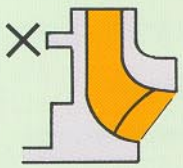
All the work can be done in the field "Full building block system," requiring no skills such as alignment.



The pilot fitting.



seat completely
uid thrust force
range.



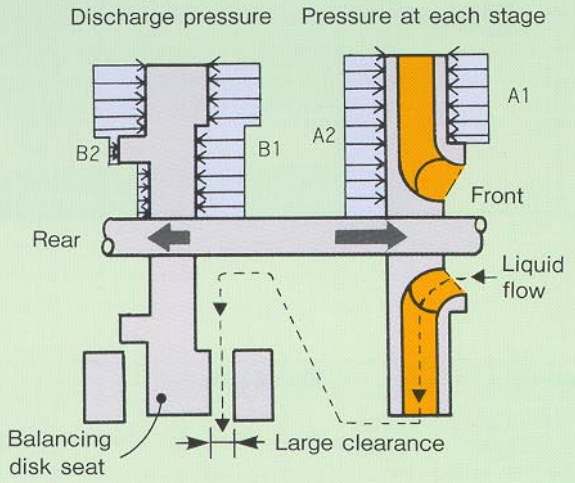
- Rear fixed orifice eliminated
- Disk friction loss reduced
- **Increased efficiency** (step 2)

Balancing disk seat

(patent pending)

Over the entire range of shaft thrust full balancing structure

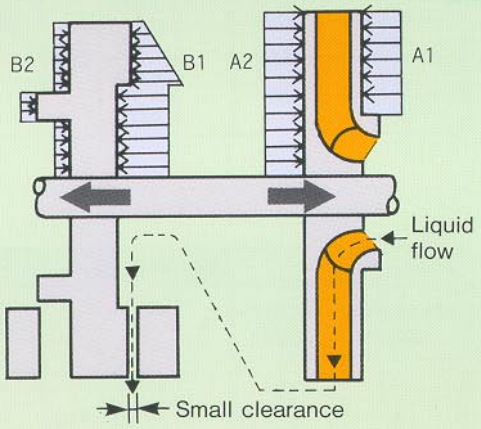
During start up



$A1+B1<A2+B2$

〈During operation〉

Moves toward the front and operates at the optimum position automatically.

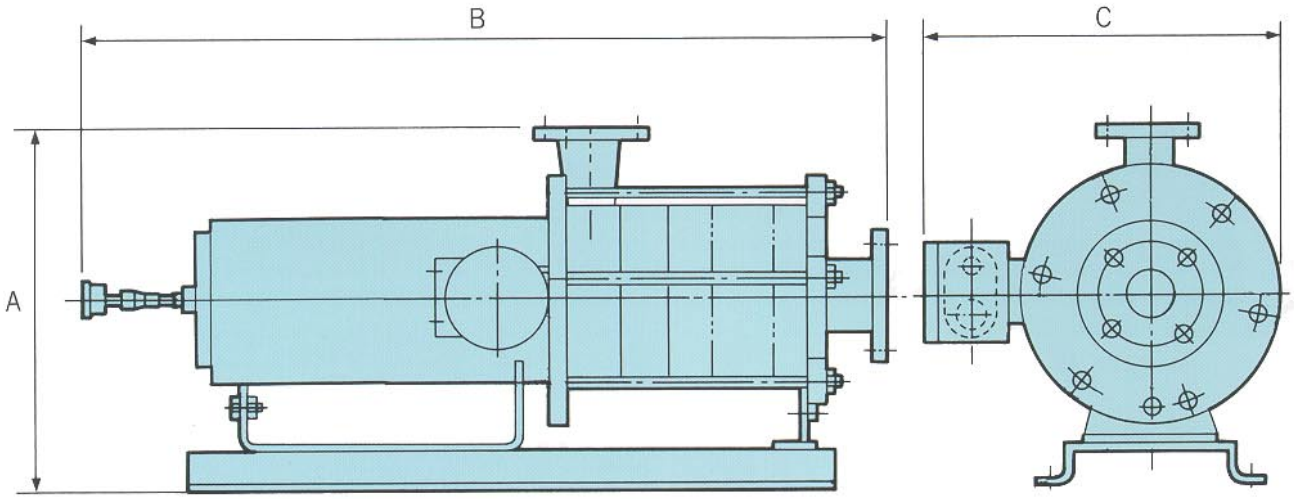


$A1+B1=A2+B2$

Complete balancing

Standard dimensions

unit: mm



Model X12						
No. of pump stages	Motor output	A	B	C	Suction	Discharge
3	5.5 kW	570	930	440	65A · 2½B	40A · 1½B
4			1090			
5			1145			
6			1200			
3	7.5 11 kW		1000	515		
4			1160			
5			1215			
6			1270			

Model X22						
No. of pump stages	Motor output	A	B	C	Suction	Discharge
3	15	590	1115	540	80A · 3B	50A · 2B
4	18.5		1305			
5	kW		1375			
3	22		1190			
4	30		1380			
5	kW		1450			
4	37		1395	565		
5	kW		1465			

Model X32						
No. of pump stages	Motor output	A	B	C	Suction	Discharge
3	75 kW	820	1695	710	100A · 4B	65A · 2½B
4			1775			
5			1855			
4	90 kW		1685	840		
5			1765			
6			1845			
5	110 132 kW		1915			
6			1995			
7			2075			

Note: These are typical examples; dimensions are subject to change

Standard materials

For non-standard materials, please contact us.

Component	Material
Liquid-contacting part	CARBON STEEL, 304SS, 316SS
Bearing	Carbon graphite
Shaft	304SS, 316SS, 329J1SS
Shaft sleeve	316SS (hard chromium plated or surface-hardened by METECO thermal spraying).
Gasket	PTFE, FRI, NBR

NIKKISO CO., LTD.

Head Office ● 27-10, Ebisu 2-chome, Shibuya-ku, Tokyo 150-8677, Japan
Telephone ● Tokyo (03) 3443-3726
Cable Address ● SPEPUMP TOKYO
Telex ● 02422527 NIKISO J
Fax ● Tokyo (03) 3444-2438
Plants ● Tokyo, Shizuoka, Kanazawa, Japan

NIKKISO PUMPS EUROPE GMBH

Office & Plant ● Nikkiso-strasse, D-63674 Altenstadt 2, F.R. GERMANY
Telephone ● (06047) 9649-0
Fax ● (06047) 9649-99

NIKKISO Cryō, INC.

Office & Plant ● 4661 Eaker Street, N.Las Vegas, Nevada. 89031
Telephone ● (702) 643-4900
Fax ● (702) 643-0391

NIKKISO Shanghai Service Center

Office ● Friendship Building, Shanghai Petrochemical Complex, Shanghai, P.R.C.
Telephone ● (21) 5794-1325 Fax:(21) 5794-1948

NIKKISO Beijing Representative Office

Office ● Room 3201, Jing Guang Center, Hu Jia Lou, Chao Yang Qu, Beijing, P.R.C. 100020
Telephone ● (10) 501-3011 Fax:(10) 501-3012

NIKKISO Singapore Representative Office

Office ● No.101 Cecil Street, Units ♯18-11 Tong Eng Building, Singapore 069533
Telephone ● 221-1235 Fax:221-3244

Representative

● Subject to change without prior notice.

Printed in Japan 2000.11.500 (T)