

PRODUCT INTRODUCTION



VERTICAL AUTOMATIC PRESS FILTER

NHD is your Best partner for Industrial
Efficiency and Sustainable Growth



Advantages



HDLY Automatic Vertical Press Filter incorporates technologies from domestic and international press filters. It is widely used for solid-liquid separation through washing, filtering, and dewatering processes across multiple industries including non-ferrous metals, smelting, chemical processing, coal beneficiation, food production, porcelain manufacturing, paper production, sugar refining, dye processing and wastewater treatment.

Advantages

HIGH PRODUCTION CAPACITY

All six working processes operate automatically and continuously, delivering over 6 times the production capacity per unit area compared to frame filter presses.

LOW MOISTURE CONTENT IN FILTER CAKE

With maximum extrusion pressure reaching 1.6MPa, the cake moisture content can be reduced below 10% under specific conditions, potentially eliminating conventional drying processes and achieving significant energy savings.

SELF-CLEANING FILTER CLOTH

The filter cloth features alternating washing on both surfaces with excellent cleaning results. Its horizontal placement ensures uniform cake thickness up to 45mm.

COMPACT STRUCTURE

The four-column vertical design requires minimal floor space, enabling facility upgrades with reduced or zero additional plant investment.

ADVANCED AUTOMATION

The system operates fully automatically via control panel, equipped with self-diagnostic and automatic alarm functions.

Operation Process

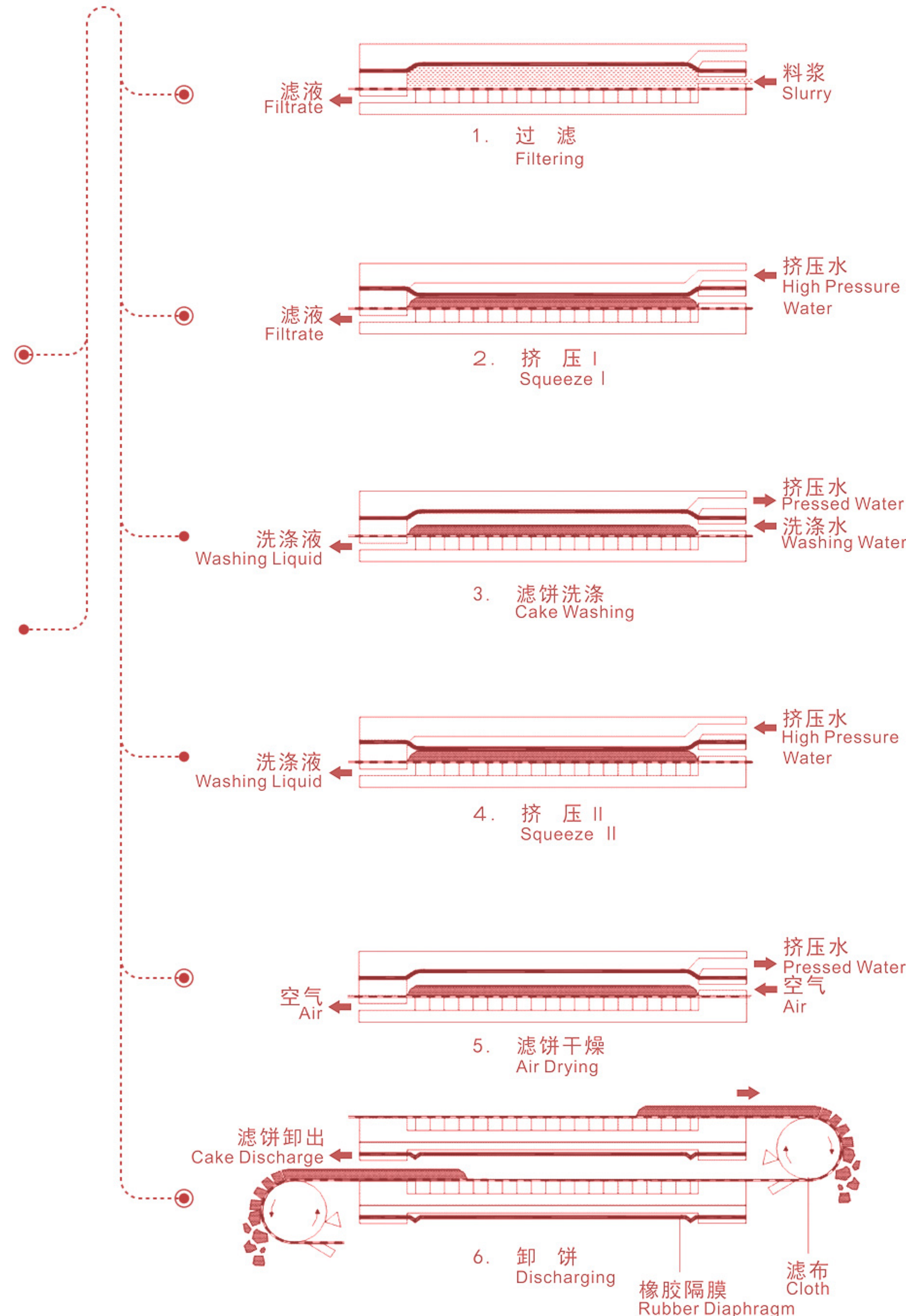
The main processes of HDLY Automatic Vertical Press Filter include: feed-in, diaphragm squeeze, washing (optional), and air drying.

4 STAGES SHORT PROCESS

Filtering → Squeeze → Drying → Discharging
(Excludes washing steps)

6 STAGES COMPLETE PROCESS

Filtering → 1st Squeeze → Washing → 2nd Squeeze → Drying → Discharging



FILTERING

When the frame assemblies close, slurry flows through the feed pipe into each filter chamber. The filtrate penetrates the filter cloth into the filtrate chamber, then passes through the flexible filtrate tube before being discharged via the filtrate header.

SQUEEZE I

High-pressure water is pumped through the flexible pipe to the top of the diaphragm, applying squeezing pressure. This forms the filter cake between the diaphragm and cloth while forcing the filtrate out of the cake.

WASHING (OPTIONAL)

Wash liquid is pumped into the filter chamber through the same manifold pipe used for slurry. As the chamber fills completely with wash liquid, the diaphragm lifts to expel the high-pressure water above it. The wash liquid then flows through the filter cake and cloth before exiting via the discharge pipe.

SQUEEZE II (OPTIONAL)

Any remaining wash liquid in the chamber after washing is expelled using the same method as the first squeeze.

AIR DRYING

Compressed air is introduced into the filter chamber through the manifold pipe, filling the chamber and raising the diaphragm before being discharged. The air passing through the cake reduces the moisture content to the optimal level and also empties the filtrate chamber.

CAKE DISCHARGE

After the drying process is complete, the frame assemblies open, and the cloth drive units start operating. The filter cake on the cloth is then discharged from both ends of the filter.

Model & Specification

Model and Specification of Vertical Automatic Press Filter				
Model	Filter Area (㎡)	Dimension (L×W×H) m	Plate Qty.	Max Pressure (MPa)
HDLY/I - 6	6	4.3×3.9×2.2	4	1.6
HDLY/I - 9	9	4.3×3.9×2.4	6	
HDLY/I - 12	12	4.3×3.9×2.6	8	
HDLY/I - 15	15	4.3×3.9×2.9	10	
HDLY/I - 18	18	4.3×3.9×3.1	12	
HDLY/I - 21	21	4.3×3.9×3.4	14	
HDLY/I - 24	24	4.3×3.9×3.6	16	
HDLY/I - 27	27	4.3×3.9×3.9	18	
HDLY/I - 30	30	4.3×3.9×4.1	20	
HDLY/II - 24	24	5.6×4.4×2.8	8	1.6
HDLY/II - 30	30	5.6×4.4×3.0	10	
HDLY/II - 36	36	5.6×4.4×3.3	12	
HDLY/II - 42	42	5.6×4.4×3.5	14	
HDLY/II - 48	48	5.6×4.4×3.8	16	
HDLY/II - 54	54	5.6×4.4×4.0	18	
HDLY/II - 60	60	5.6×4.4×4.3	20	
HDLY/II - 66	66	5.6×4.4×4.5	22	
HDLY/II - 72	72	5.6×4.4×4.8	24	
HDLY/III - 60	60	7.2×5.2×3.5	10	1.6
HDLY/III - 72	72	7.2×5.2×3.7	12	
HDLY/III - 84	84	7.2×5.2×4.0	14	
HDLY/III - 96	96	7.2×5.2×4.2	16	
HDLY/III - 108	108	7.2×5.2×4.5	18	
HDLY/III - 120	120	7.2×5.2×4.7	20	
HDLY/III - 132	132	7.2×5.2×5.0	22	
HDLY/III - 144	144	7.2×5.2×5.3	24	
HDLY/III - 156	156	7.2×5.2×5.5	26	
HDLY/III - 168	168	7.2×5.2×5.8	28	
HDLY/III - 180	180	7.2×5.2×6.0	30	

Cases

We have many excellent partners.



Papua New Guinea

The Global Largest 180 m² Vertical Automatic Press Filters for Wet-process Nickel-cobalt Smelting Project in Papua New Guinea



Indonesia

5 Sets of 168 m² Vertical Automatic Press Filters for Ningbo Liqin Mining Wet Nickel and Cobalt Smelting Project in Indonesia



Indonesia

13 Sets of 180 m² and 168 m² Vertical Automatic Press Filters for Huayue Wet Nickel and Cobalt Smelting Project in Indonesia



DRC

2 Sets of 144 m² Vertical Automatic Press Filters for Dizwa Copper and Cobalt Deposit Project in DRC

Diagram

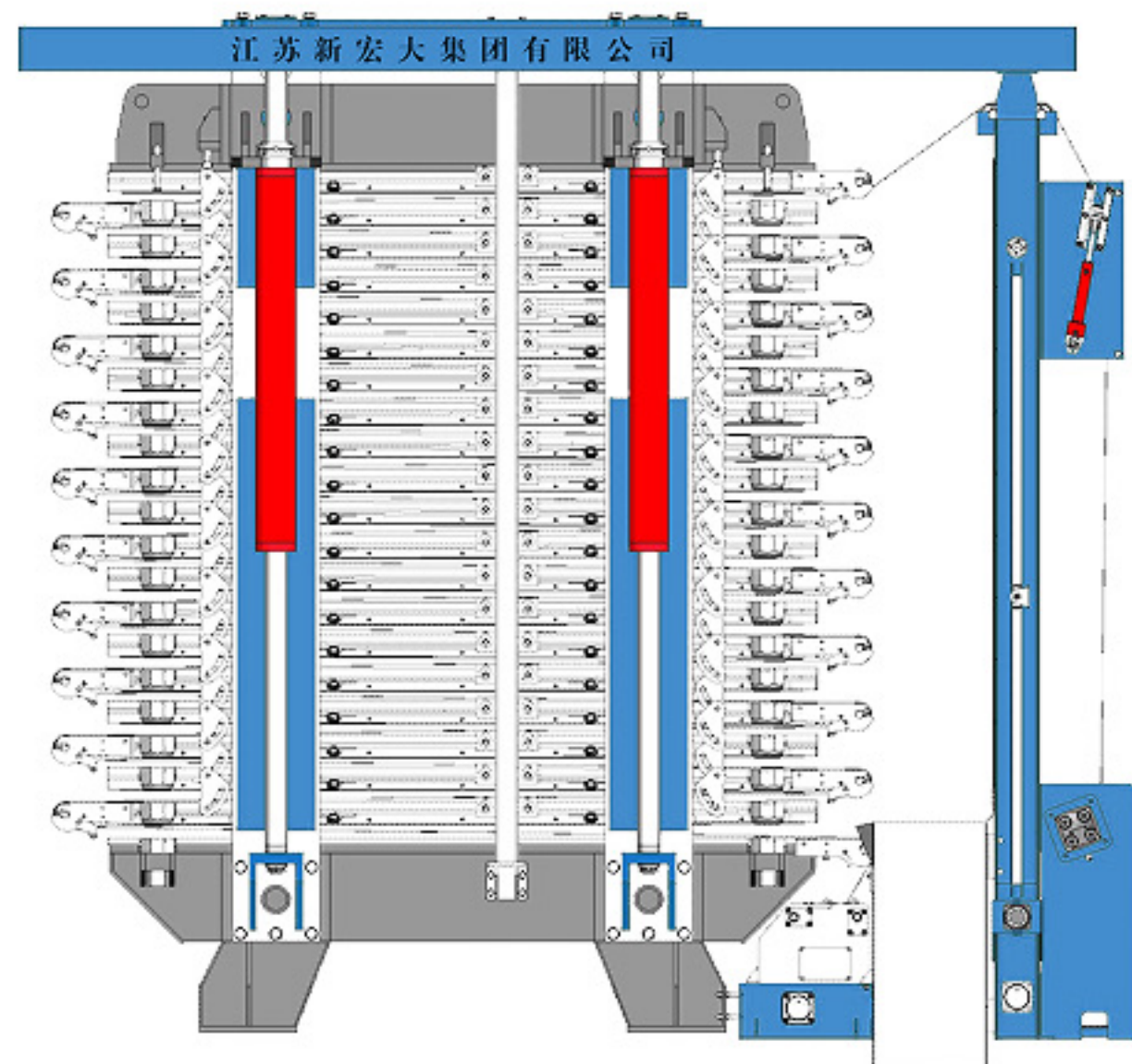


Diagram of the Filter Plate in Open Position

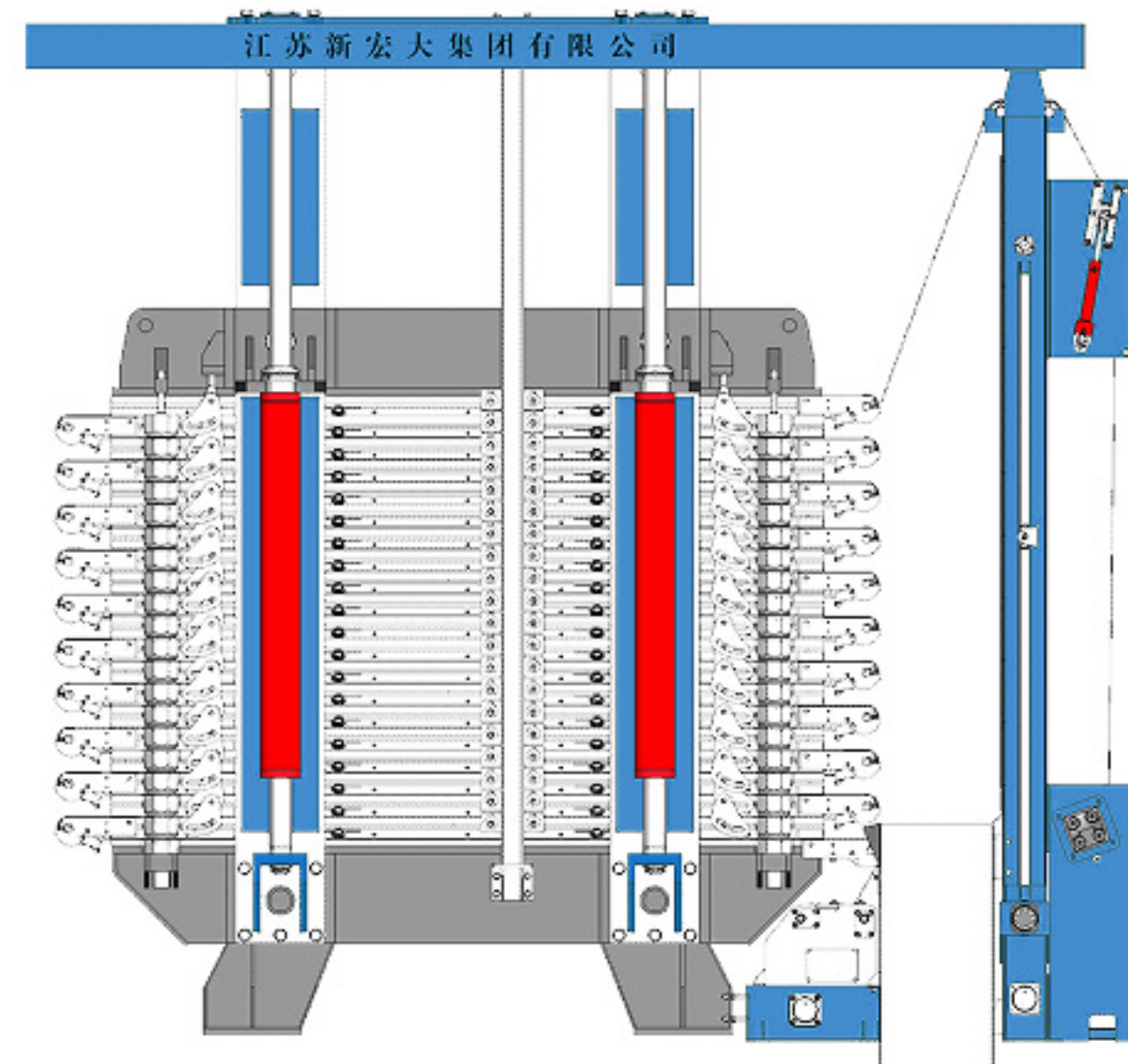


Diagram of the Filter Plate in Closed Position

NHD YOUR BEST PARTNER

Progress Originates from Innovation
Many a Micro Makes a Macro



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