

## **Sewage treatment solution**



### **OUR VALUE**

**innovation**  
**pragmatism**  
**good faith**  
**collaboration**

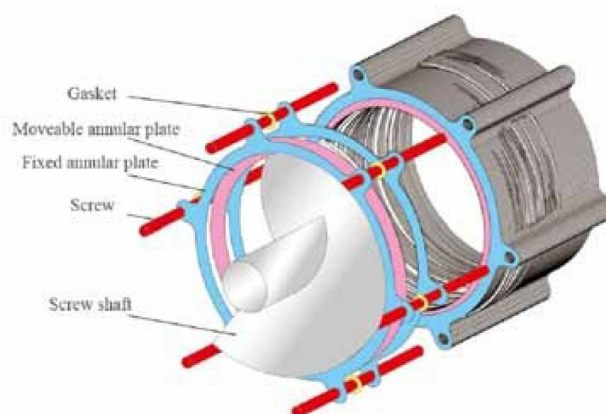
## Volute Sludge Dewatering



### Product Introduction

Volute Sludge Dewatering which uses the screw extrusion principle is a new type of solid-liquid separation device. It reaches the goal of extrusion dewatering sludge by the powerful extrusion pressure of changing the screw diameter and distance, and the tiny spacing between moveable annular plates and fixed annular plates.

### Structure Principle



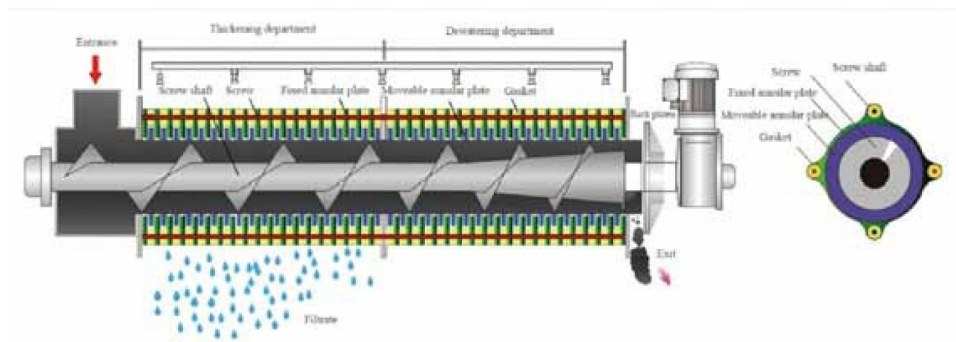
The main body of Volute Sludge Dewatering is made of multiple fixed annular plates and moveable annular plates with the screw shaft running through it. The front part is thickening department and the ending part is dewatering department. It can thicken and dewater sludge in one box, and has taken place of the traditional filter clothes and centrifugal filtration method for its distinctive filter model.



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## Dewatering Principle

Sludge will be transported to the dewatering department after being thickened in the thickening department. In the advancing process, great pressure has been produced because of the gradually decreasing filter spacing and screw distance, and the back platen clogging. Then the volume decreases continuously, and the purpose of fully dewatering will be achieved.



## Eight Advantages

### 1. Using scope widely

It can be widely used to dewater sludge of municipal administration wastewater, food, drink, slaughtering and breeding, print, petrochemical engineering, paper, leather and pharmaceutical.



Municipal administration



Drink



Slaughtering and breeding



Print



Chemical engineering



Petroleum



Paper

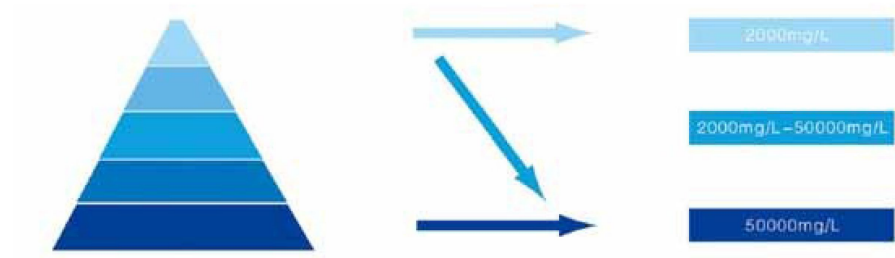


Pharmaceutical

The distinctive dewatering principle makes it possible that the device can be used for high or low density sludge, from 2000mg/L on, which has become the foundation of the low density sludge direct dewatering.



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Innovative structure design makes it possible that the device can be used for all kinds of sludge with high or low density, especially the sludge with oil, and it can be named the invincible opponent to dewater the sludge with oil.



## 2. The device cannot be clogged easily

Special dynamic and static rings make the device not easily clog. Then there is no need to wash abundantly for preventing filter spacing being clogged. So it has reduced the number of water for washing and burden of inside circling, and solves the clogging problems that the traditional dewatering devices bring to the company.



Dynamic and static rings  
take the place of filter clothes



Automatic cleaning

No clogging

Treating oil sludge easily

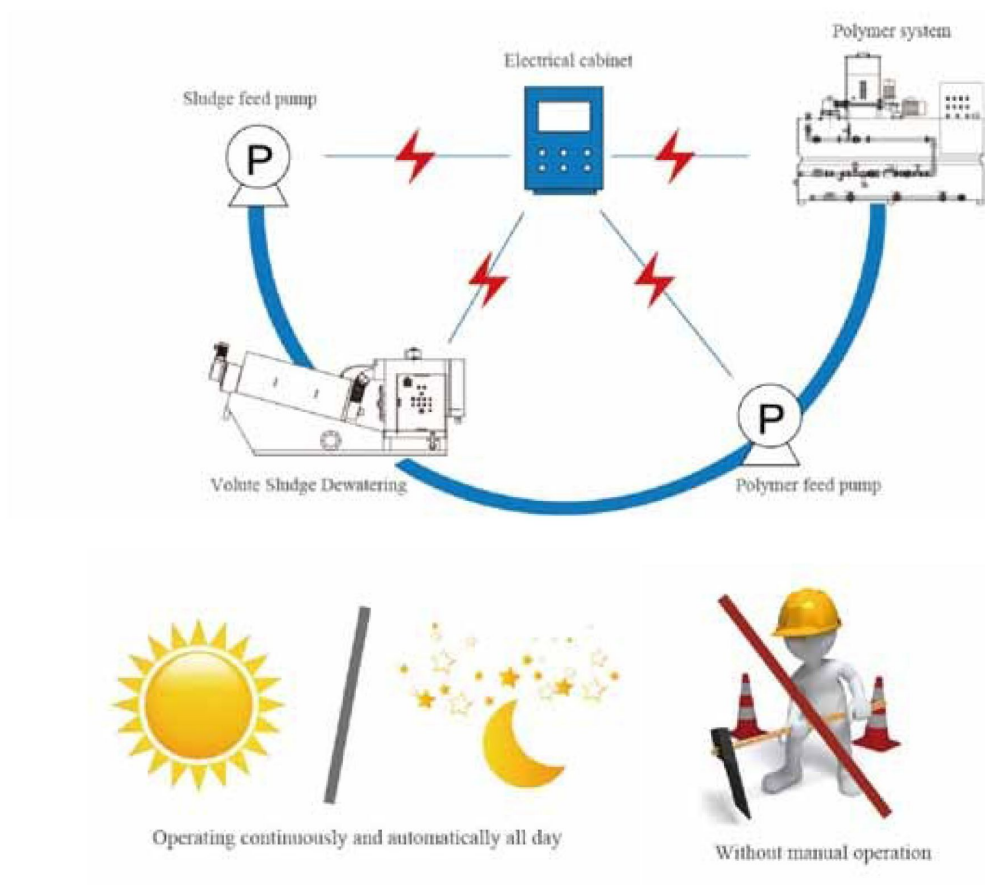
## 3. Operating continuously and automatically

Volute Sludge Dewatering can control its operation automatically including pumping out sludge, putting in fluids and discharge sludge. The device can operate through the team work of electrical cabinet, chemical feeder, mud pump and dosing pump without manual operation. The device will be



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clogged, filters running irregularly, or other situations that can affect the safety cannot take place during the whole procedure. Daily maintenance of the machine can be done easily and conveniently. And it can work continuously all day without manual operation. It makes the dream that sludge dewatering can operate continuously and automatically come true firstly and truly.



#### 4. Operation costs can be saved

The integration overall design, compact design, saving operation costs greatly;

Low speed spiral pressing technology makes the power consumption reduced greatly;

The device cannot be clogged, which can reduce cleaning water greatly;

Operation automatically all day can reduce manual costs greatly;

So, Volute Sludge Dewatering is a new type of energy saving and environmental protection device that can truly consistent with national policy.



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Saving power



Saving water

## 5. No secondary pollution

The rotation speed of screw shaft is about 2 to 3 revolutions per minute, and the rotation has no vibration and little noise. The volute has the self-cleaning function, cannot be clogged, just need a little water to clean, and has no secondary pollution. The sludge is done in such a slow state and the bad smell is not diffused, which can create a very comfortable operation surrounding.

## 6. Flexible and durable frame

This machine's design is quite flexible because it uses machinery to extrusion dewatering directly and do not need large drum frame. Almost all the frame is made of stainless steel and only the screw shaft and moveable annular plates should be replaced, which can contribute to a long service life and durable in use.



Simple structure

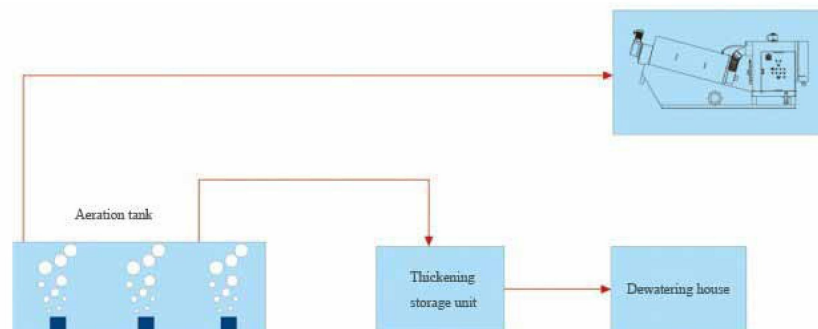
Flexible design



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## 7. Saving engineering investment

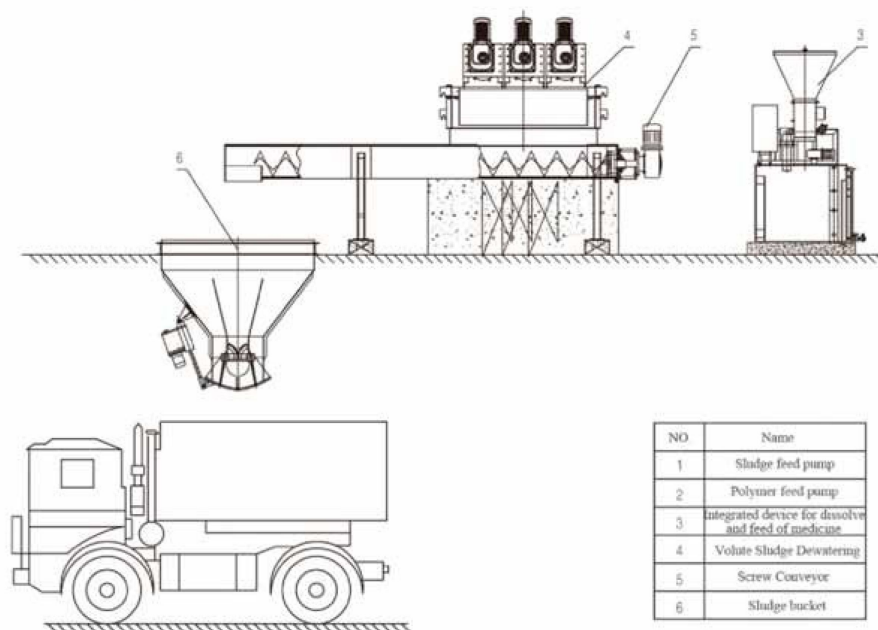
Volute Sludge Dewatering has the function of thickening sludge. It can deal with the aerobic sludge in the aeration tank directly. So it does not need thickening storage unit, which can reduce the floor space of sewage treatment facilities and construction costs.



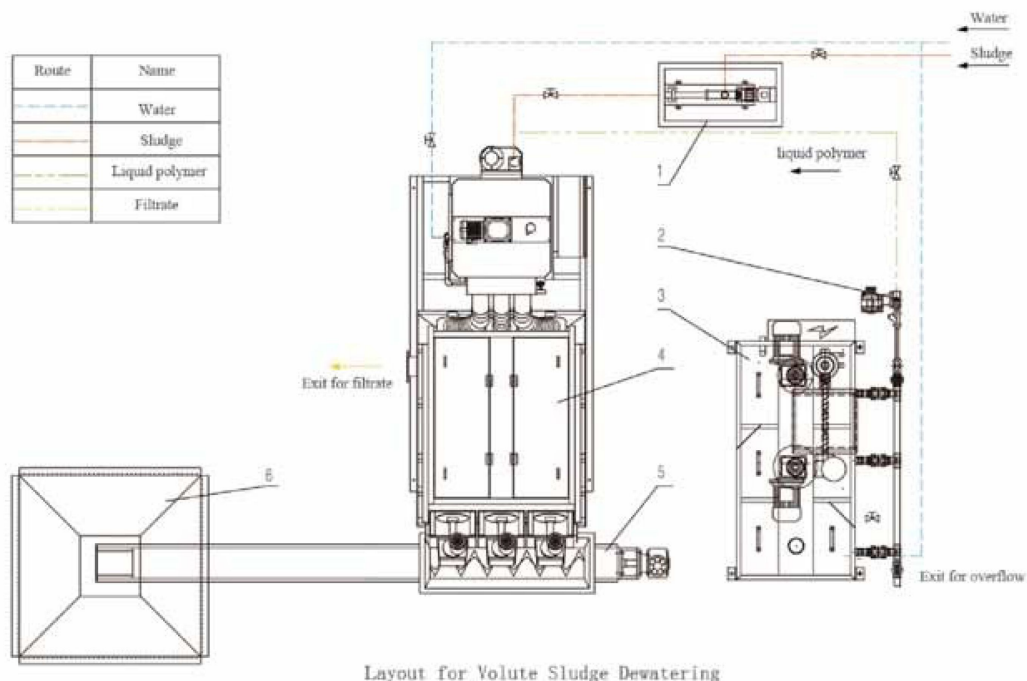
## 8. Improving phosphorus removal function

Sludge will be dewatered in the aerobic situation, so in the sludge thickening tank or storage tank, traditional phosphorus sludge outlet of anoxic or anaerobic situation cannot happen. Then the phosphorus removal function of the sludge treatment system will be improved.

## Process flow diagram



General arrangement for Volute Sludge Dewatering



Layout for Volute Sludge Dewatering

## Technical specification

Model	DS treating capacity	Sludge treating capacity				
		10000mg/L	20000mg/L	30000mg/L	40000mg/L	50000mg/L
MYDL101	5~7kg/h	~0.5m³/h	~0.25m³/h	~0.2m³/h	~0.15m³/h	~0.14m³/h
MYDL131	10~14kg/h	~1m³/h	~0.5m³/h	~0.4m³/h	~0.3m³/h	~0.28m³/h
MYDL201	15~20kg/h	~1.5m³/h	~0.75m³/h	~0.6m³/h	~0.5m³/h	~0.4m³/h
MYDL202	30~40kg/h	~3m³/h	~1.5m³/h	~1.2m³/h	~1m³/h	~0.8m³/h
MYDL203	45~60kg/h	~4.5m³/h	~2.25m³/h	~1.8m³/h	~1.5m³/h	~1.2m³/h
MYDL301	50~70kg/h	~5m³/h	~2.5m³/h	~2m³/h	~1.5m³/h	~1.4m³/h
MYDL302	100~140kg/h	~10m³/h	~5m³/h	~4m³/h	~3m³/h	~2.8m³/h
MYDL303	150~210kg/h	~15m³/h	~7.5m³/h	~6m³/h	~4.5m³/h	~4.2m³/h
MYDL304	200~280kg/h	~20m³/h	~10m³/h	~8m³/h	~6m³/h	~5.6m³/h
MYDL351	100~120kg/h	~10m³/h	~5m³/h	~4m³/h	~3m³/h	~2.4m³/h
MYDL352	200~240kg/h	~20m³/h	~10m³/h	~8m³/h	~6m³/h	~4.8m³/h
MYDL353	300~360kg/h	~30m³/h	~15m³/h	~12m³/h	~9m³/h	~7.2m³/h
MYDL354	400~480kg/h	~40m³/h	~20m³/h	~16m³/h	~12m³/h	~9.6m³/h
MYDL401	130~160kg/h	~13m³/h	~6.5m³/h	~5m³/h	~4m³/h	~3.2m³/h
MYDL402	260~320kg/h	~26m³/h	~13m³/h	~10m³/h	~8m³/h	~6.4m³/h
MYDL403	390~480kg/h	~39m³/h	~19.5m³/h	~15m³/h	~12m³/h	~9.6m³/h
MYDL404	520~640kg/h	~52m³/h	~26m³/h	~20m³/h	~16m³/h	~12.8m³/h



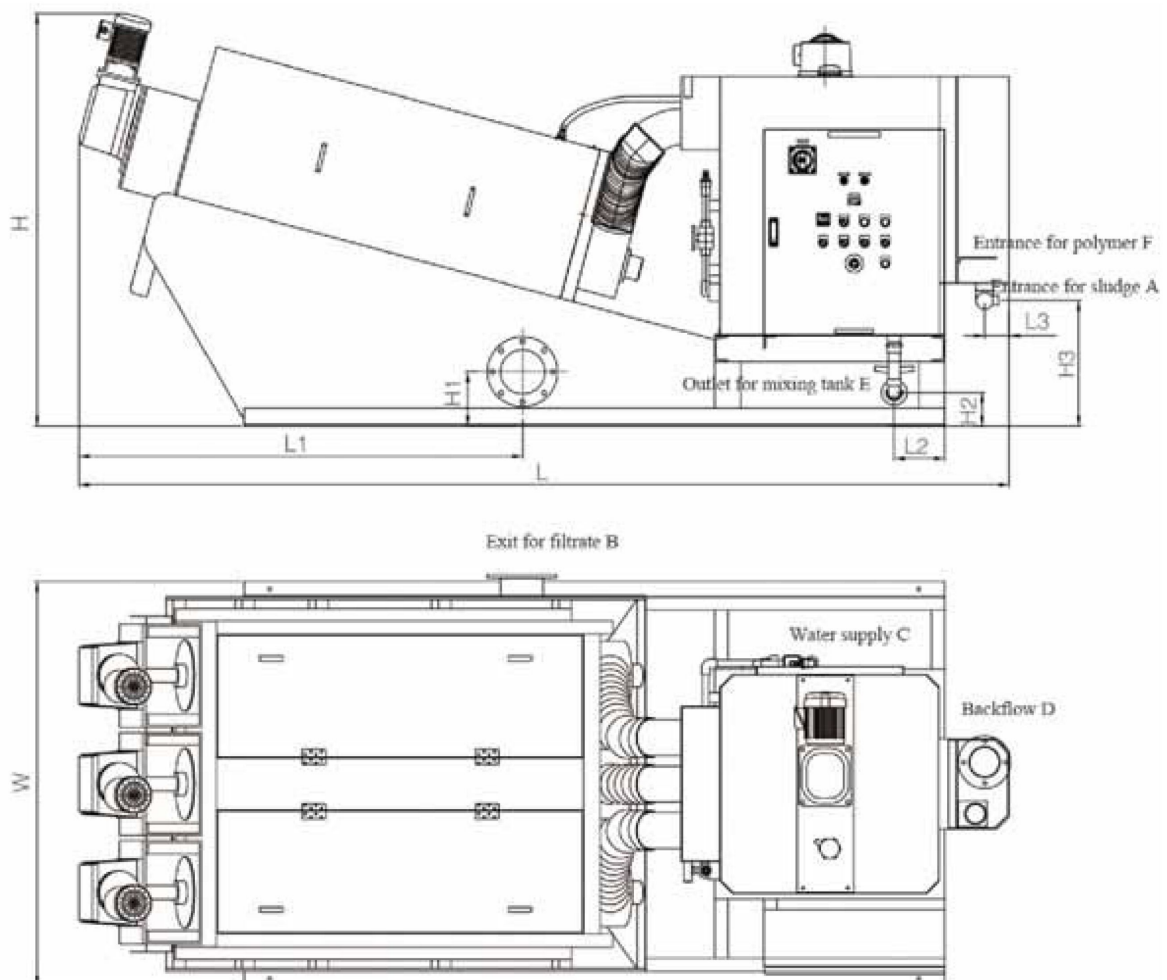
Model	Screw specifications	Distance from mud cake outlet to the ground (mm)	Overall dimensions(mm)			net weight	Operating weight
			Length (L)	Width (W)	Height (H)		
MYDL101	φ100×1	215	1850	740	1040	220kg	315kg
MYDL131	φ130×1	250	2000	785	1040	250kg	395kg
MYDL201	φ200×1	350	2510	900	1300	420kg	540kg
MYDL202	φ200×2	350	2560	1050	1300	550kg	660kg
MYDL203	φ200×3	350	2610	1285	1760	700kg	1010kg
MYDL301	φ300×1	530	3330	1005	1760	900kg	1300kg
MYDL302	φ300×2	530	3530	1290	1760	1350kg	2000kg
MYDL303	φ300×3	530	3680	1620	1760	1900kg	2700kg
MYDL304	φ300×4	530	3830	2010	2130	2500kg	3600kg
MYDL351	φ350×1	570	4005	1100	2130	1100kg	2000kg
MYDL352	φ350×2	570	4390	1650	2130	2100kg	3250kg
MYDL353	φ350×3	570	4520	1980	2130	3100kg	4600kg
MYDL354	φ350×4	570	4750	2715	2100	4100kg	5700kg
MYDL401	φ400×1	660	4680	1110	2100	2200kg	4200kg
MYDL402	φ400×2	660	4960	1760	2100	3500kg	6000kg
MYDL403	φ400×3	660	5010	2585	2100	5500kg	8000kg
MYDL404	φ400×4	660	5160	3160	2100	7000kg	9500kg

Model	Motor power (kw)			Washing water pressure	Clean water qty (L/h)	Maintenance frequency	Wearing parts replacing cycle(years)	
	Screw shaft	Mixer	Total				Screw axis	Active rings
MYDL101	0.18	0.18	0.36	0.1Mpa~0.2Mpa (without high pressure flushing equipment)	24	5 minutes per day	5	3
MYDL131	0.18	0.18	0.36		48		5	3
MYDL201	0.37	0.18	0.55		32		5	3
MYDL202	0.74	0.55	1.29		64		5	3
MYDL203	1.11	0.55	1.29		96		5	3
MYDL301	0.75	0.55	1.3		40		10	5
MYDL302	1.5	0.75	2.25		80		10	5
MYDL303	2.25	1.1	3.35		120		10	5
MYDL304	3	1.1	4.1		160		10	5
MYDL351	1.1	0.75	1.85		60		10	5
MYDL352	2.2	1.1	3.3		120		10	5
MYDL353	3.3	1.5	4.8		180		10	5
MYDL354	4.4	0.75+0.75	5.9		240		10	5
MYDL401	1.5	1.1	2.6		80		10	5
MYDL402	3	1.5	4.5		160		10	5
MYDL403	4.5	1.1+1.1	6.7		240		10	5
MYDL404	6	1.1+1.1	8.2		320		10	5



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Note: The time of replacement cycle of easily damaged parts is a ballpark figure. In the practical operation process, the replacement cycle of easily damaged parts will be affected by the types of sludge, the methods of treatment, the situation of operation adjusting, and the time of daily operation. (The replacement cycle of easily damaged parts is calculated by operation time of 365 days per year and 8 hours per day)



Outline drawing for Volute Sludge Dewatering

Model	Sludge delivery port A	Filtrate outlet B	Water inlet C	Reflux inlet D	Mixing tank outlet E	Polymer feed F
MYDL101	DN50	DN80	DN20	DN100	DN40	DN20
MYDL131	DN50	DN80	DN20	DN100	DN40	DN20
MYDL201	DN50	DN100	DN20	DN100	DN40	DN25
MYDL202	DN50	DN100	DN20	DN100	DN40	DN25
MYDL203	DN65	DN100	DN20	DN100	DN40	DN25
MYDL301	DN65	DN150	DN20	DN100	DN50	DN25
MYDL302	DN65	DN150	DN20	DN100	DN50	DN25
MYDL303	DN65	DN150	DN20	DN100	DN50	DN25
MYDL304	DN80	DN150	DN20	DN100	DN65	DN25
MYDL351	DN65	DN150	DN20	DN100	DN50	DN25
MYDL352	DN80	DN150	DN20	DN100	DN65	DN25
MYDL353	DN80	DN150	DN32	DN100	DN65	DN25
MYDL354	DN80	DN200	DN32	DN100	DN65	DN50
MYDL401	DN65	DN150	DN20	DN100	DN50	DN25
MYDL402	DN80	DN150	DN32	DN100	DN65	DN25
MYDL403	DN100	DN200	DN50	DN150	DN65	DN50
MYDL404	DN100	DN200	DN50	DN150	DN65	DN50

Note: Flange connection will be adopted if the outlet diameter is more than DN65