

# DS-L Series Roots Blower

## *Product Introduce*

### Roots Blower

High efficiency tri-lobe rotor,  
quiet running, small outline,  
easy maintenance, low vibration.



DICHENG DS-L Series Two-lobe Roots Blowers adopts the advanced technology of Japan, its air capacity is 18.3m<sup>3</sup>/min - 434m<sup>3</sup>/min, the pressure is from 9.8Kpa to 49Kpa. The main characteristic of our air blower is small volume, light weight, flow strong, noise small, steadily reliable operation. This air blower is mainly applied to such trades as water treatment, air transport, mine, vacuum packaging, aquaculture and etc. Our products export to Southeast Asia, Europe, North and South America and etc.

## *Product Feature*



1. Air flow and pressure can be customized
2. Stable air flow and less pressure variation
3. Clean air not with oil moist
4. Construction simple and easy maintenance
5. Bearing are all lubricated by oil moist
6. Long service life

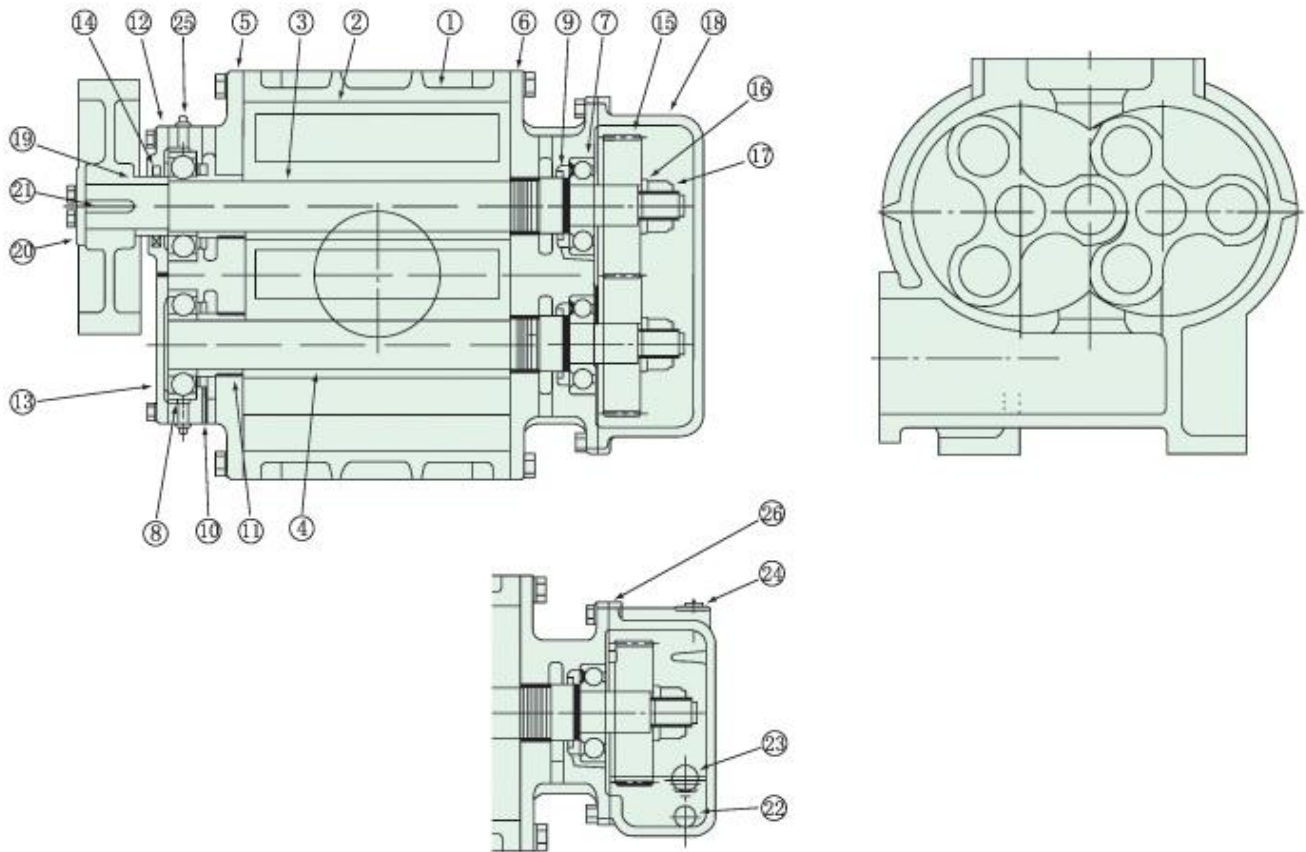
# Blower Selection

## DS-L Low Pressure Twin-lobe Roots Blower

L52LD	18.3-35.2m <sup>3</sup> /min	9.8-49Kpa
L53LD	23.5-44.3m <sup>3</sup> /min	9.8-49Kpa
L62LD	25.8-67.4m <sup>3</sup> /min	9.8-49Kpa
L63LD	31.7-84.6m <sup>3</sup> /min	9.8-49Kpa
L72WD	53.4-89.2m <sup>3</sup> /min	9.8-49Kpa
L73WD	65.8-99.9m <sup>3</sup> /min	9.8-49Kpa
L74WD	79.8-124m <sup>3</sup> /min	9.8-49Kpa
L81WD	60.1-129m <sup>3</sup> /min	9.8-49Kpa
L82WD	78.4-168m <sup>3</sup> /min	9.8-49Kpa
L83WD	104-216m <sup>3</sup> /min	9.8-49Kpa
L84WD	132-270m <sup>3</sup> /min	9.8-49Kpa
L93WD	233-332m <sup>3</sup> /min	9.8-49Kpa
L94WD	266-376m <sup>3</sup> /min	9.8-49Kpa
L95WD	308-434m <sup>3</sup> /min	9.8-49Kpa



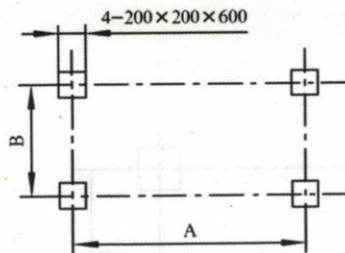
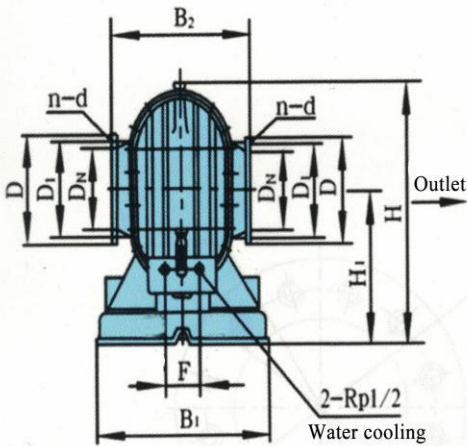
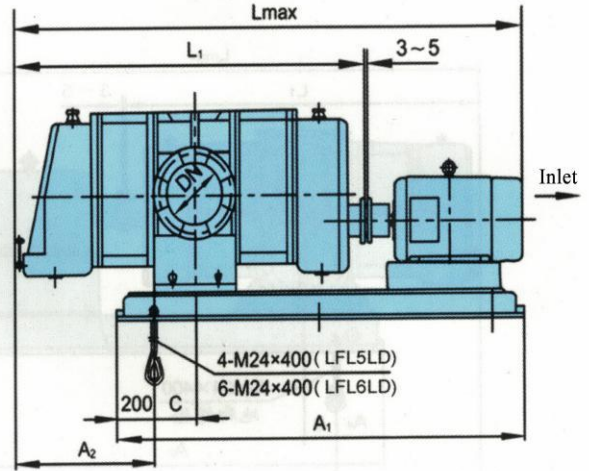
## Blower Structure Diagram



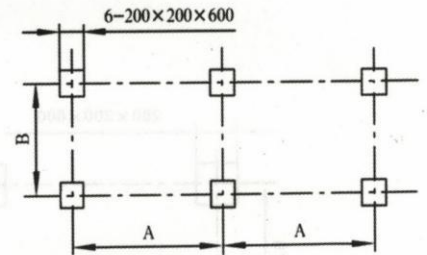
No.	Name	Material	Q' ty	No.	Name	Material	Q' ty
1	Shell	HT200	1	14	Z sealing ring	Nitrile rubber	1
2	Impeller	HT200	2	15	Gear	35CrM	2
3	Drive shaft	45Cr	1	16	Gear lock washer	Q235	2
4	Driven shaft	45Cr	1	17	Gear lock nut	SS400	2
5	Drive side siding	HT200	1	18	Gearbox	HT200	1
6	Gear side siding	HT200	1	19	Sleeve	45	1
7	Drive bearing	NSK	2	20	End cover	Q235	2
8	Driven bearing	NSK	2	21	Pin	45	1
9	Sealing ring	Nitrile rubber	2	22	Plug	35	1
10	Sealing ring	Nitrile rubber	2	23	Oil gauge		1
11	Bearing sleeve	45	4	24	Vent		1
12	Bearing cover	HT200	1	25	Grease nipple	C3605	2
13	Bearing cover	HT200	1	26	Gearbox seals	Barley paper	2

# Outline drawings and foundation installation

## L5LD, L6LD Roots blower



L5LD Anchor bolts layout

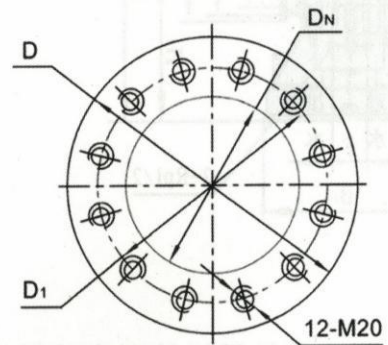
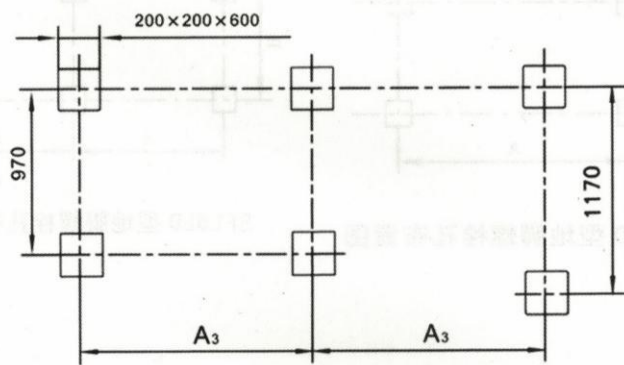
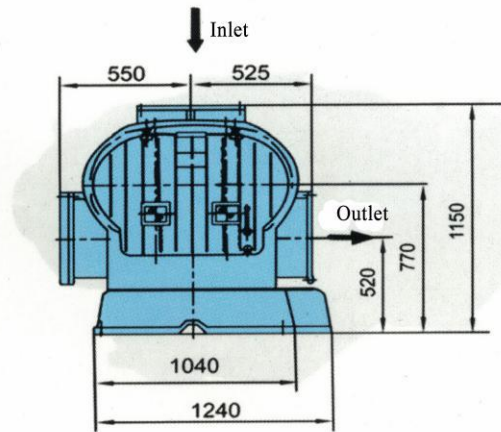
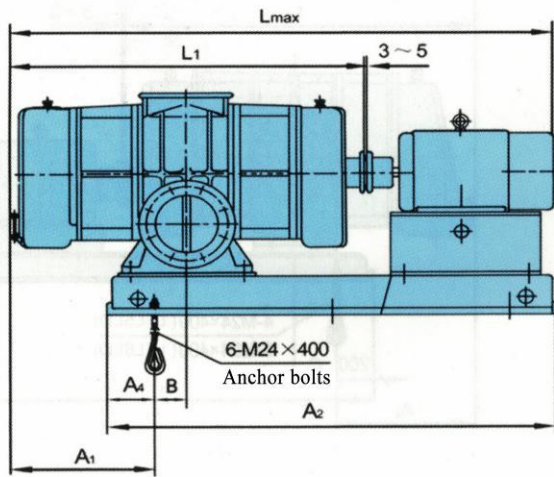


L6LD Anchor bolts layout

Model	A	A1	A2	B	B1	B2	C	F	H	H1	L1	Lmax	DN	D1	D	n-d	Motor Model
L52LD	1000	1400	692.5	610	660	600	0	140	830	520	1330	2047	200	280	320	8-Φ17.5	Y132M, Y160L, Y180L
	1170	1570		0	2267		Y200L, Y225S, Y225M, Y250M										
L53LD	1170	1570	657	610	660	600	83	140	830	520	1425	2207	250	335	375	12-Φ17.5	Y160M, Y180M, Y180L, Y200L
	1440	1840		83	2482		Y225S, Y225M, Y250M										
L62LD	672	1745	731.5	740	790	720	46	150	980	600	1518	2455	250	335	375	12-Φ17.5	Y160L, Y200L, Y225M, Y250M
	845	2090		46	2797		Y280S, Y280M, Y315S, JS115-6										
L63LD	745	1890	730.5	740	790	720	102	150	980	600	1628	2565	300	395	440	12-Φ22	Y180L, Y180M, Y225 <sub>M</sub> , Y250M
	930	2260		102	2977		Y280S, Y280M, Y315S, Y315M, JS114-4, JS115-6, JS116-6, JS116-8										

Note: When the pressure is more than 49 Kpa, the blower need water cooling.

# L7WD Roots blower

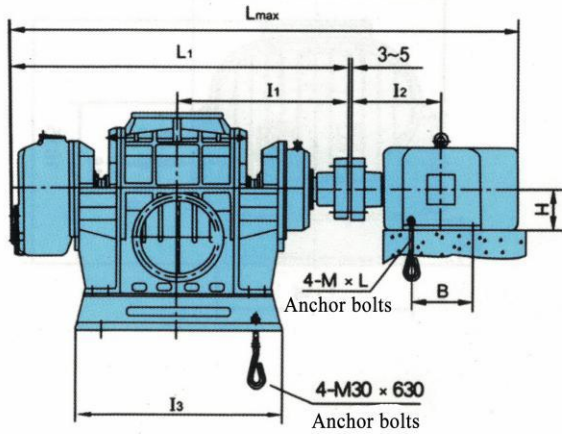


Anchor bolts layout

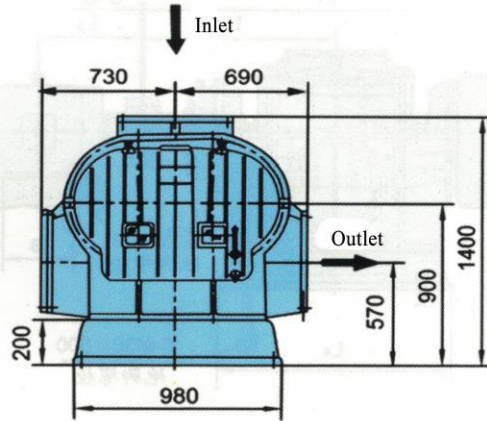
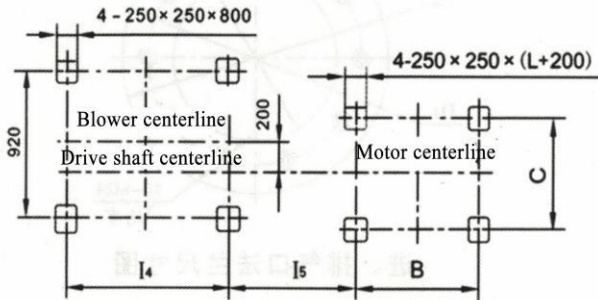
Inlet and outlet flanges

Model	A1	A2	A3	A4	B	L1	Lmax	DN	D1	D
L72WD	772.5	2320	810	350	45	1686	3055	300	395	440
L73WD	825	2600	850	450	65	1791	3140	350	445	490
L74WD	881.5	2600	850	450	65	1916	3265	350	445	490

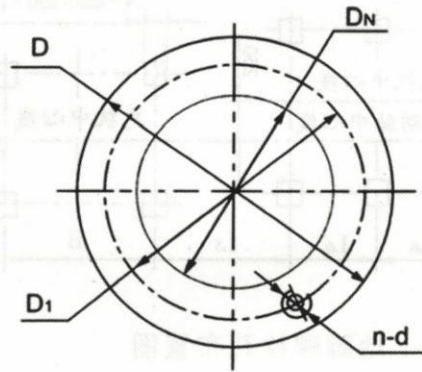
# L8WD Roots blower



Anchor bolts layout



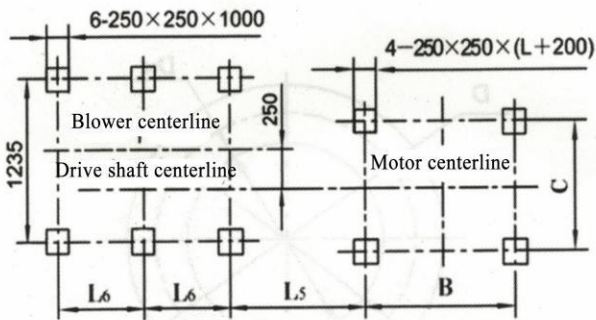
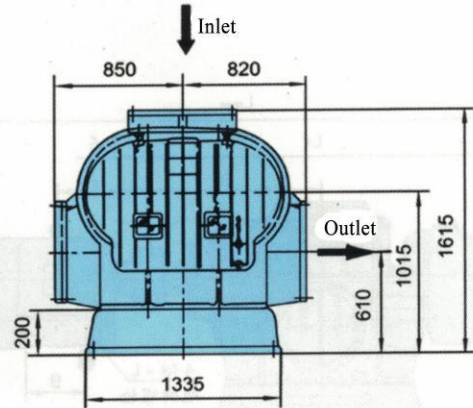
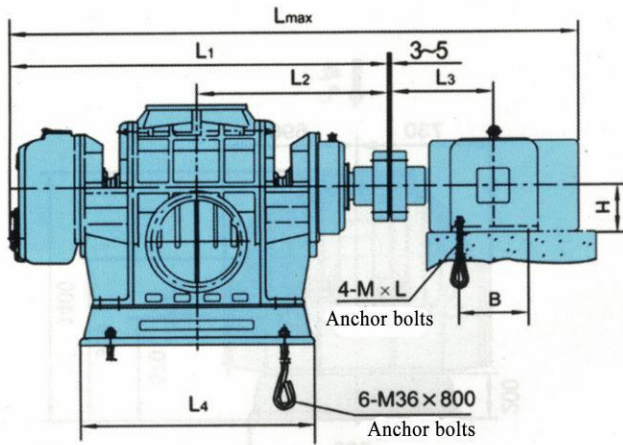
Inlet and outlet flanges



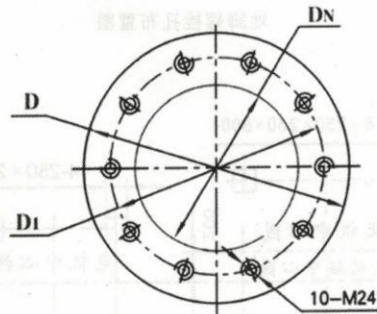
Model	$I_1$	$I_3$	$I_4$	$L_{max}$	$L_1$	$DN$	$D_1$	$D$	$n-d$
L81WD	970	1030	440	3623	1994	350	445	490	12-M20
L82WD	1035	1160	570	3823	2124	400	495	540	8-M20
L83WD	1120	1330	740	3997	2294	450	550	595	8-M20
L84WD	1220	1530	940	4418	2494	500	600	645	10-M20

Size	Motor Model		Y Series						JS											
	Y225	Y250	Y280		Y315			Y355		115-6		116-8.10		116-6		125-128		136-8		
	M	M	S	M	S	M	L	M	L	115-6	115-8.10	116-8.10	117-8.10	116-6	117-6	125	127	136-8	137-6	
C	356	406	457		508			610		620		710		790						
B	311	349	368	419	406	457	508	560	630	490	590		550	650	660	760				
H	225	250	280		315			355		375		450		500						
$M \times L$	M16 x 300		M20 x 300		M24 x 400			M24 x 400		M20 x 300		M24 x 400								
$I_2$	446.5	484.5	516	541.5	594	619.5	645	709	744	710	660	710	760	770	820	840	890			
$I_5$	1046	1065	1087		1146			1184		1220	1170		1220	1250	1265					

# L9WD Roots blower



Anchor bolts layout

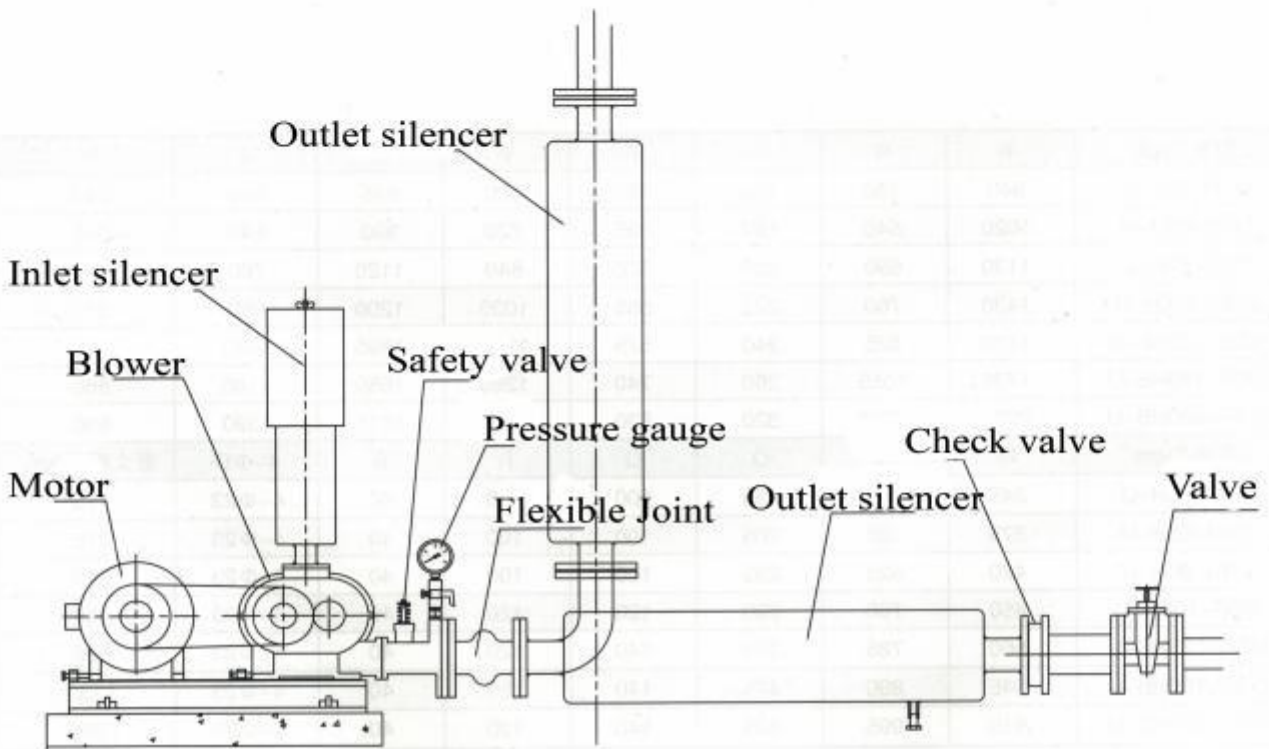
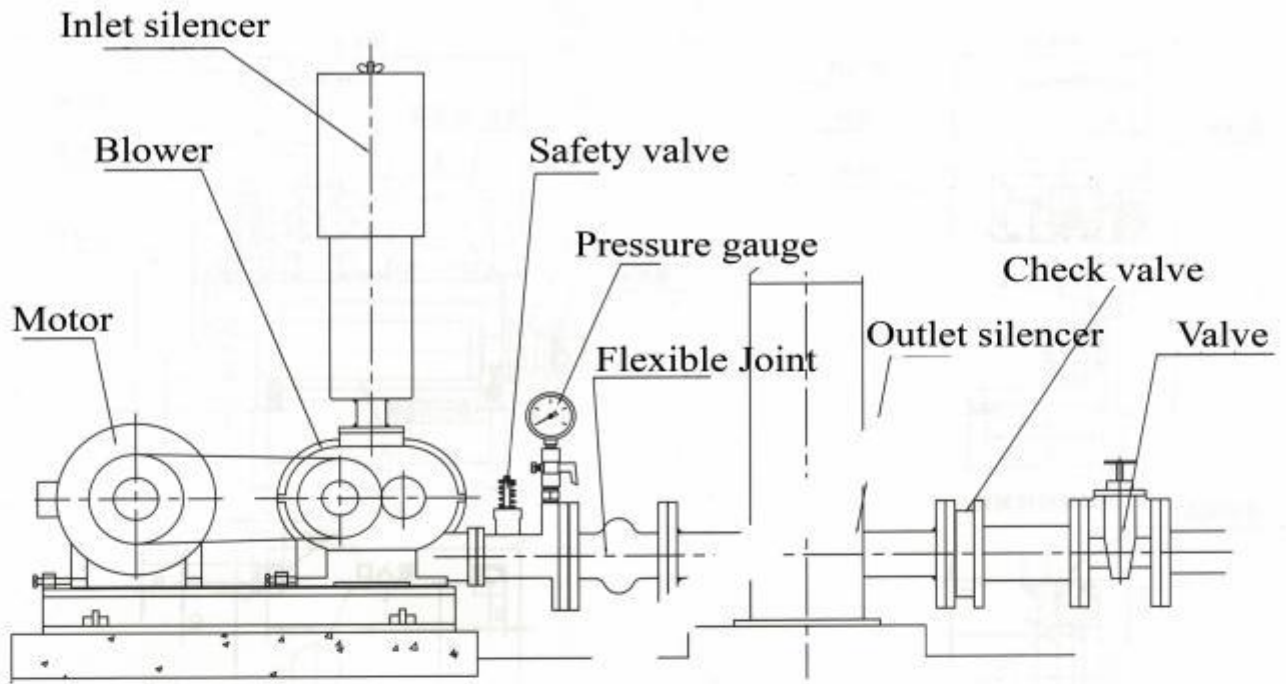


Inlet and outlet flanges

Model	Lmax	L1	L2	L4	L6	DN	D1	D
L93WD	4915	2726	1335	1720	800	550	655	705
L94WD	5055	2866	1405	1860	870	600	705	755

Size	Motor Model	Y315		Y355		Y400	Y450	JS						
		M	L	M	L			116 117	127 128	137	138	1410-10	1410-8	157 158
C		508		610		710	800	620	710	790		940		1100
B		457	508	560	630	1000	1120	590	650	660	760	870	970	820
H		315		355		400	450	375	450	500		560		630
M x L		M24 x 400				M30 x 630		M20 x 300	M24 x 400				M36 x 800	
L3		619.5	645	709	744	1050	1170	710	820	840	890	1005	1055	950
L5		931		969		1090	1150	955	1035	1050		1110		1080

# Pipe installation reference drawing





# Blower Accessorie

## Inlet silencer

	Model	Dn	D1	D	L	N-Φh	Weight (Kg)
	XF-40	Φ40	85	110	220	4-Φ14	4
	XF-50	Φ50	85	150	500	4-Φ14	5
	XF-65	Φ65	110	155	550	4-Φ14	7
	XF-80	Φ80	130	180	800	4-Φ14	15
	XF-100	Φ100	145	207	850	8-Φ18	19
	XF-125	Φ125	165	260	915	8-Φ18	22
	XF-150	Φ150	200	260	1100	8-Φ18	35
	XF-200	Φ200	280	320	1450	8-Φ20	60
	XF-250	Φ250	350	395	1650	12-Φ20	120
	XF-300	Φ300	400	445	1750	12-Φ22	140

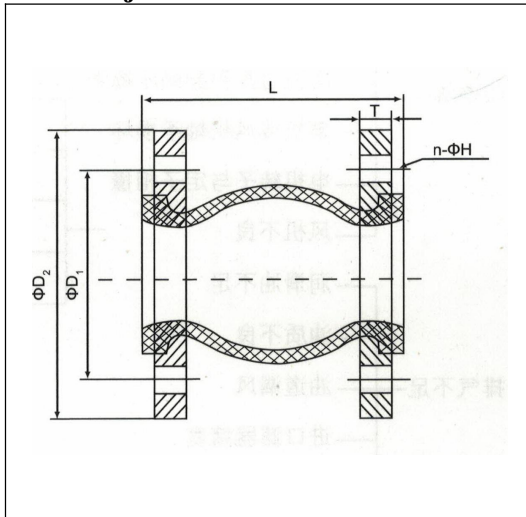
## Outlet silencer

	Model	ΦE	A	B	C	D	N-Φh	Weight (Kg)
	KM-40	Φ40	500	135	110	150	4-Φ19	9
	KM-50	Φ50	600	140	125	165	4-Φ19	12
	KM-65	Φ65	700	165	145	185	4-Φ19	16
	KM-80	Φ80	900	190	160	200	8-Φ19	20
	KM-100	Φ100	1200	217	180	220	8-Φ19	38
	KM-125	Φ125	1400	261	210	250	8-Φ22	45
	KM-150	Φ150	1600	286	240	285	8-Φ22	68
	KM-200	Φ200	1800	320	295	310	8-Φ22	85
	KM-250	Φ250	2000	450	350	395	12-Φ22	130
	KM-300	Φ300	2000	500	400	445	12-Φ22	160

## Vertical outlet silencer

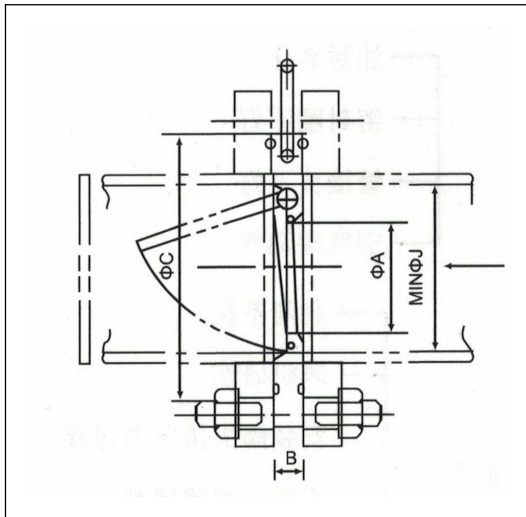
	Model	ΦF	A	B	C	D	E	F	G	N-Φh	Weight (Kg)
	RKM-40	Φ40	350	90	125	145	125	110	150	4-Φ18	10
	RKM-50	Φ50	450	130	140	165	140	125	165	4-Φ19	15
	RKM-65	Φ65	500	140	170	190	170	145	185	4-Φ19	20
	RKM-80	Φ80	610	150	190	217	190	160	200	8-Φ19	27
	RKM-100	Φ100	680	160	220	261	220	180	220	8-Φ19	34
	RKM-125	Φ125	820	200	240	286	240	210	250	8-Φ22	58
	RKM-150	Φ150	940	220	290	370	290	240	285	8-Φ22	80
	RKM-200	Φ200	1060	260	320	420	320	295	340	8-Φ22	97
	RKM-250	Φ250	1250	400	350	500	500	350	395	12-Φ22	140
	RKM-300	Φ300	1300	430	560	560	560	400	445	12-Φ22	180

## Flexible joint













Model	Φ	D1	D2	L	T	N-Φh	Weight (Kg)
KXT-40	Φ40	110	150	90	16	4-Φ18	2
KXT-50	Φ50	125	165	105	18	4-Φ19	3
KXT-65	Φ65	145	185	115	20	4-Φ19	3.5
KXT-80	Φ80	160	200	135	20	8-Φ19	4
KXT-100	Φ100	180	220	150	22	8-Φ19	5
KXT-125	Φ125	210	250	165	24	8-Φ19	6.5
KXT-150	Φ150	240	285	180	24	8-Φ22	9.5
KXT-200	Φ200	295	340	190	24	8-Φ22	16
KXT-250	Φ250	350	395	230	24	12-Φ22	25
KXT-300	Φ300	400	445	245	24	12-Φ22	38

## Check valve



Model	Φ	A	B	C	J	Weight (Kg)
DCV-40	Φ40	20	16	90	40	1.0
DCV-50	Φ50	25	19	105	50	1.2
DCV-65	Φ65	36	19	125	65	1.5
DCV-80	Φ80	46	19	135	80	1.8
DCV-100	Φ100	67	19	160	100	2.5
DCV-125	Φ125	88	21	190	125	3.6
DCV-150	Φ150	108	24	220	150	5.2
DCV-200	Φ200	138	29	270	200	11.0
DCV-250	Φ250	200	30	330	250	15.0
DCV-300	Φ300	240	40	380	300	22.0

				
<b>Silencer</b>	<b>Shell</b>	<b>Siding</b>	<b>OPT belt</b>	<b>Shaft</b>
				
<b>Impeller</b>	<b>NSK bearing</b>	<b>Check valve</b>	<b>Flexible joint</b>	<b>Package</b>

## Common malfunctions and Solution

Malfunctions		Reason	Solution			
Blower	Can not rotate	Can rotated by hand	The motor is damaged	Repair or replace the motor		
		Can rotated round by hand	The lobes are locked	Open to repair		
			The impurity in blower	Open to clean		
	Abnormal sound or vibration		Skid, v-belt is too tight or too loose	Adjust v-belt tension		
			Pulley offset	Reset pulley		
			Pulley and belt cover friction	Adjust belt cover		
			Bearing oil lack or aging	To replace the oil		
			Gear oil lack or aging	To replace the oil		
			The safe valve leakage	Adjust the safe valve		
			Foundation insufficient strength	To strengthen the foundation strength		
			Piping resonance	Eliminate by the silencer and support		
			Exhaust pressure rises abruptly	See ※annotated		
			Anchor bolt is too loose	Tighten		
			Rotor interference	Open to repair		
			The impurity in blower	Open to clean		
			Check valve bad	Replace		
			Overheating		Exhaust pressure rises abruptly	See ※annotated
					Temperature of working environment exceeds 40 °C	Ventilated working environment
	Inlet silencer obstruction	Cleaning/replace filter				
	Airflow insufficient		Pipeline leaks	Tighten the pipe connection		
			Inlet silencer obstruction	Cleaning/replace filter		
			The safe valve leakage	Adjust the safe valve		
			V-belt is too loose	Adjust v-belt tension		
	Exhaust pressure rises abruptly		Exhaust pressure rises abruptly	See ※annotated		
			Shut off the valve	Fully open the valve		
			The water level rises	Adjust water level		
			Inlet/outlet pipe jams	Cleaning debris		
			Valve bad or twist reversed direction	Replace or reverse direction twist		
Oil leak		Airflow overpowered	Reduce round speed or exhaust			
		Lubrication oil overmuch	Refuel to the center of oil standard			

## **FAQ**

### 1. What's the information should I provide when inquiry?

A: Air capacity

B: Pressure

C: Application

D: Use environment(Temperature, atmospheric pressure)

E: Do you need motor?

Or other specials you give us will be more appreciated.

### 2. What is your warranty?

Our warranty is 12 months after received the roots blower. During the warranty period, replace the damaged parts for free of charge. Out warranty period, to provide timely, high-quality technical services and price concessions spare parts to ensure continuous safe and high-quality equipment operation.

### 3. How long is the service life of roots blower?

In normal use environment

A- Service life of blower is more than 10 years.

B- Service life of Impeller is more than 60,000 hours.

C- Service life of bearing is more than 30,000 hours.

D- Service life of gear is more than 60,000 hours.

## **Contact Us**

### **Shandong Dacheng Machinery Technology Co., LTD**

**Address:** Zhangqiu Mingshui, Jinan City, Shandong province, China 250200.

**Website:** <http://www.chinadicheng.com>

**Tel:** +86 0531-83216898

**Fax:** +86 0531-83216898

**Cellphone:** +86 013188890202

**WhatsApp:** +86 013188890202

**Skype:** <live:zqdicheng>

**Email:** [zqdicheng@chinadicheng.com](mailto:zqdicheng@chinadicheng.com)