



# DS/DSG SERIES HP Pump Manual



Zhejiang Botuolini Machinery CO.,LTD.

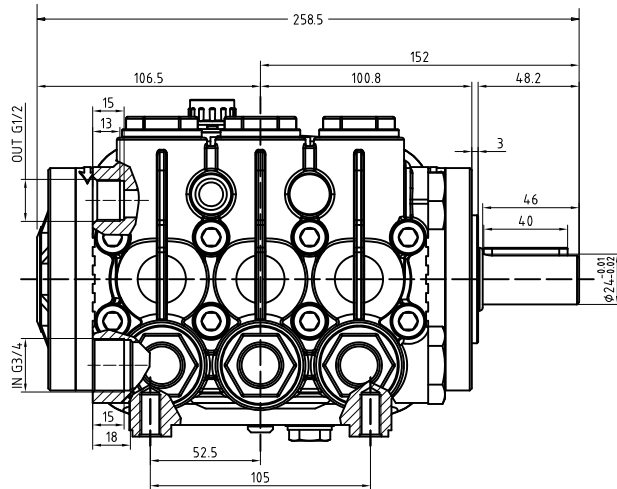
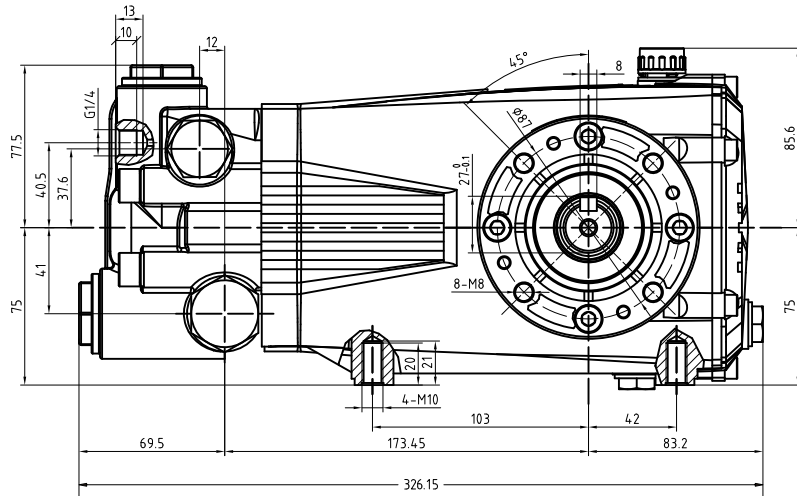
Please Read This Manual Carefully Before Use And Keep It Properly.

# CATALOG

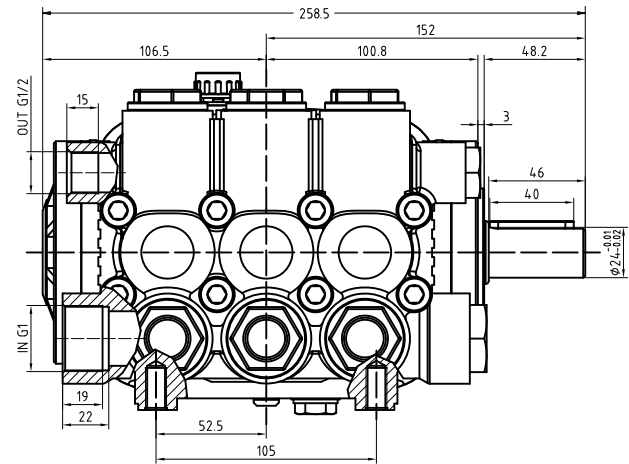
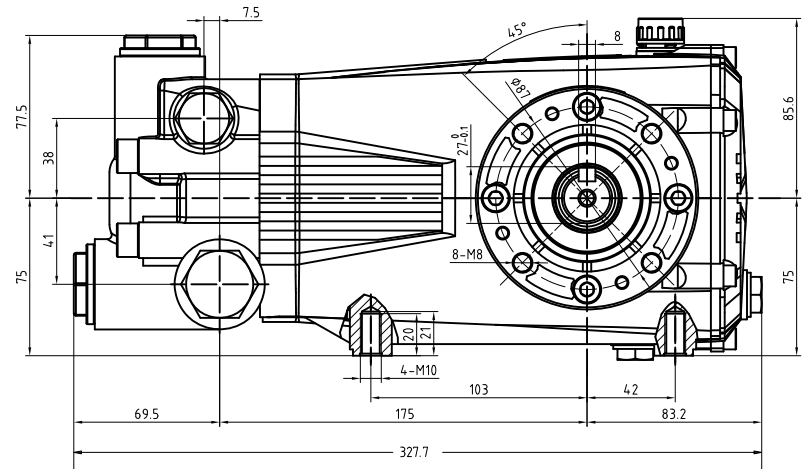
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2. DS3025、DS4020、DS5215、DSG Dimension

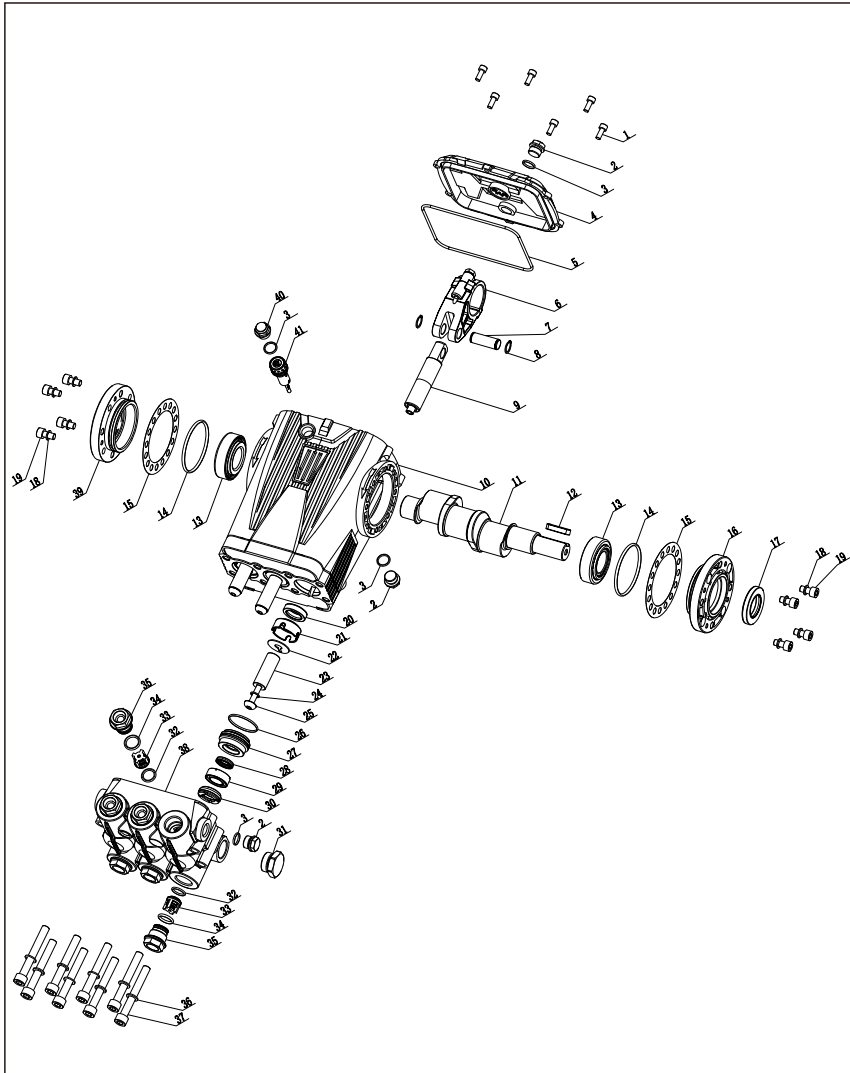


3. DS7215、DSG7215 Dimension



## E. Exploded View & Detailed List

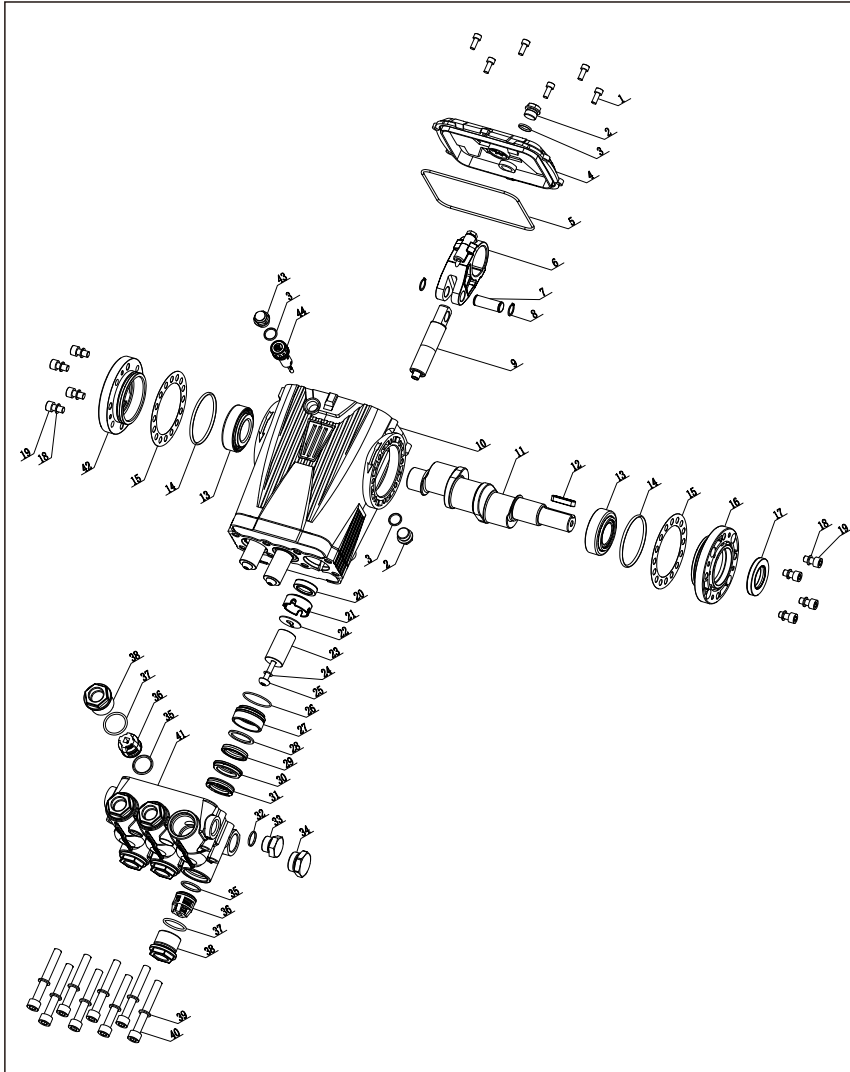
### 1. DS1240、DS1640、DS2235、DSG Spare part



### 2. DS1240、DS1640、DS2235、DSG Parts List

No.	Article No.	Description	Q'ty	No.	Article No.	Description	Q'ty
1	590201012	Hexagon socket round head screw	6	22	501002120	DS water baffle	3
2	500010003	Plug	3	23	501002161	DS18 ceramic tube	3
3	590101019	O-ring	4	24	590101221	O-ring	3
4	301031001	DS Rear Cover Assembly	1	25	501002061	DS ceramic pipe locking bolt	3
5	590101017	O-ring	1	26	590101079	O-ring	3
6	501002050	DS connecting rod assembly	3	27	501001080	DS18 rear guide ring	3
7	501002110	DS plunger pin	3	28	590105002	18 sets of water seals	3
8	590206001	External Circlips	6	29	501001120	DS18 support ring	3
9	501002101	AD plunger rod	3	30	590104002	18 main water seal two-piece set	3
10	501002017	DS-1 crankcase (locating pin)	1	31	500010004	DS-G3/4 plug	1
11	501002220	DS crankshaft 21-N24	1	32	590101025	O-ring	6
12	500011002	Flat key	1	33	500601120	TK22 one-way valve	6
13	590303004	Tapered roller bearing	2	34	590101033	O-ring	6
14	590101102	O-ring	2	35	501001160	DS18 one-way valve screw	6
15	501002080	DS clearance adjustment gasket	2	36	590204101	Double sided tooth pad	8
16	501002030	DS extended end flange	1	37	590201030	Hexagon socket round head screw	8
17	590108003	TC skeleton oil seal	1	38	501001010	DS18 pump head	1
18	590204103	Double sided tooth pad	8	39	301041001	DS Side Cover Assembly	1
19	590201006	Hexagon socket round head screw	8	40	101702010	Oil plug	1
20	590107004	TC4 skeleton oil seal	3	41	301150101	BM oil pointer component	1
21	501002091	DS support frame	3				

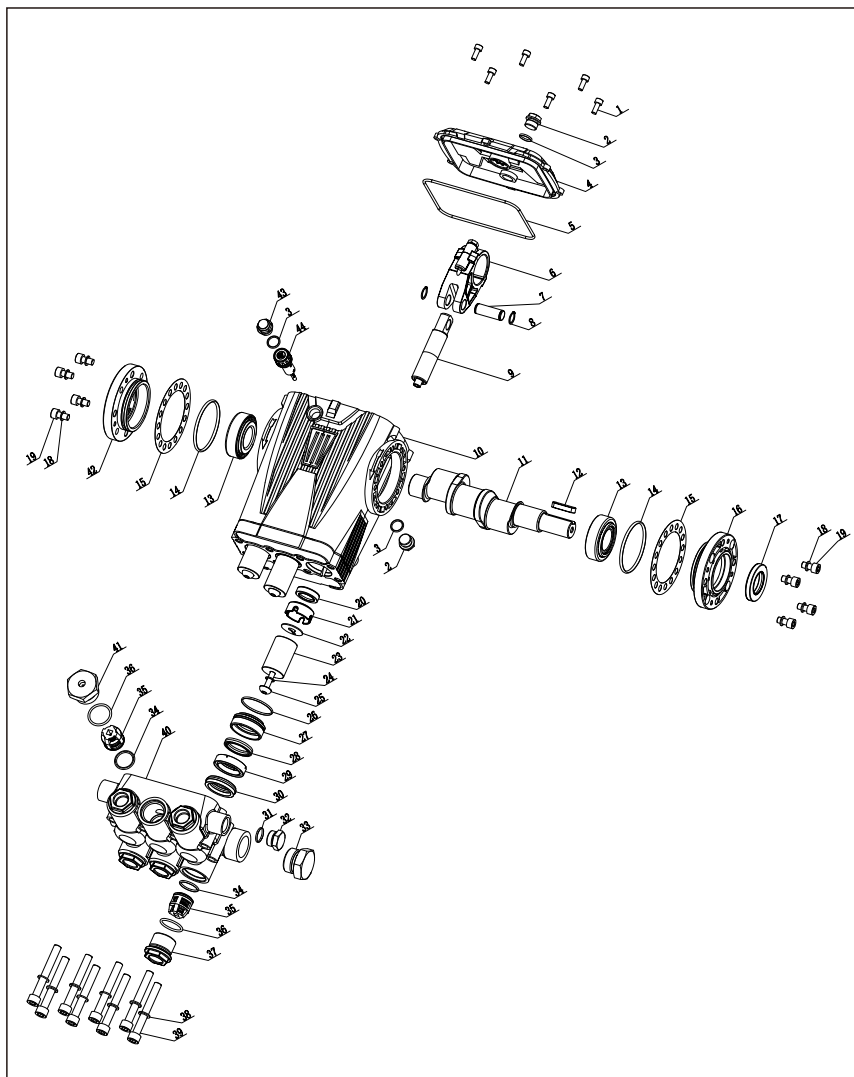
### 3. DS3025、DS4020、DS5215、DSG Spare part



### 4. DS3025、DS4020、DS5215、DSG Parts List

No.	Article No.	Description	Q'ty	No.	Article No.	Description	Q'ty
1	590201012	Hexagon socket round head screw	6	23	501002170	DS28 ceramic tube	3
2	500010001	BM-G3/8 plug	2	24	590101221	O-ring	3
3	590101019	O-ring	4	25	501002060	DS ceramic pipe locking bolt	3
4	301031001	DS Rear Cover Assembly	1	26	590101079	O-ring	3
5	590101017	O-ring	1	27	501001100	DS28 rear guide ring	3
6	501002050	DS connecting rod assembly	3	28	590105037	DS28 water seal flat gasket	3
7	501002110	DS plunger pin	3	29	590105007	DS28 sets of water seals	3
8	590206001	External Circlips	6	30	501001140	DS28 support ring	3
9	501002101	AD plunger rod	3	31	590104013	28 main water seal three piece set	3
10	501002017	DS-1 crankcase (locating pin)	1	32	590101035	O-ring	1
11	501002220	DS crankshaft 21-N24	1	33	500010002	BM-G3/4 plug	1
12	500011002	Flat key	1	34	500010004	DS-G3/4 plug	1
13	590303004	Tapered roller bearing	2	35	590101060	O-ring	6
14	590101102	O-ring	2	36	501002150	DS one-way valve	6
15	501002080	DS clearance adjustment gasket	2	37	590101066	O-ring	6
16	501002030	DS extended end flange	1	38	501001170	DS one-way valve screw	6
17	590108003	TC skeleton oil seal	1	39	590204101	Double sided tooth pad	8
18	590204103	Double sided tooth pad	8	40	590201030	Hexagon socket round head screw	8
19	590201006	Hexagon socket round head screw	8	41	501001030	DS28 pump head	1
20	590107004	TC4 skeleton oil seal	3	42	301041001	DS Side Cover Assembly	1
21	501002091	DS support frame	3	43	101702010	Oil plug	1
22	501002120	DS water baffle	3	44	301150101	BM oil pointer component	1

## 5. DS7215、DSG7215 Spare part



## 6. DS7215 DSG7215 Parts List

No.	Article No.	Description	Q'ty	No.	Article No.	Description	Q'ty
1	590201012	Hexagon socket round head screw	6	23	501002180	DS28 ceramic tube	3
2	500010003	BM-G3/8 plug	2	24	590101114	O-ring	3
3	590101019	O-ring	4	25	501002060	DS ceramic pipe locking bolt	3
4	301031001	DS Rear Cover Assembly	1	26	590101081	O-ring	3
5	590101017	O-ring	1	27	501001110	DS32 rear guide ring	3
6	501002050	DS connecting rod assembly	3	28	590105009	DS32 sets of water seals	3
7	501002110	DS plunger pin	3	29	501001150	DS32 support ring	3
8	590206001	External Circlips	6	30	590104005	32 main water seal two-piece set	3
9	501002101	AD plunger rod	3	31	590101035	O-ring	1
10	501002017	DS-1 crankcase (locating pin)	1	32	500010002	BM-G1/2 plug	1
11	501002220	DS crankshaft 21-N24	1	33	500010009	plug	1
12	500011002	Flat key	1	34	590101060	O-ring	6
13	590303004	Tapered roller bearing	2	35	501001500	DS7215 one-way valve	6
14	590101102	O-ring	2	36	590101066	O-ring	6
15	501002080	DS clearance adjustment gasket	2	37	501001170	DS one-way valve screw	5
16	501002030	DS extended end flange	1	38	590204101	Double sided tooth pad	8
17	590108003	TC skeleton oil seal	1	39	590201030	Hexagon socket round head screw	8
18	590204103	Double sided tooth pad	8	40	501001450	DS7210 pump head	1
19	590201006	Hexagon socket round head screw	8	41	501001510	DS one-way valve screw with hole	1
20	590107004	TC4 skeleton oil seal	3	42	301041001	DS Side Cover Assembly	1
21	501002091	DS support frame	3	43	101702010	Oil plug	1
22	501002120	DS water baffle	3	44	301150101	BM oil pointer component	1

## F. Repair and maintenance

**The good maintenance will make the systems run smoothly & extend the service life.**

The lubrication oil code:L-CKD 220 or 85W-90, oil level is not less than oil level or half position of oil glass.Be aware of the temperature of crankcase, oil temperature below 75°C is standard. After running 50 hours, the pump needs a oil change, and then every 500 hours, oil change should be effected.

**Note: once the oil becomes emulsion, the oil must be changed immediately.**

In winter, be aware of freezing. Check the pipeline& pump before run the pump. Discharge the hydraulic after the running, and make some anti-freezing process.

## G. Faults and their troubleshooting methods

TROUBLE	REASON	SOLUTION
Pressure Non-Adjustable	Nozzle wears, or orifice bigger, blocked	Replace nozzle or clean it
Pulsation (hp hose vibrating, pressure non-stable)	<ol style="list-style-type: none"> <li>1、 Air inside the pump</li> <li>2、 Blocked by contaminants</li> <li>3、 Run Dry for long time, Seals Broken</li> <li>4、 Checking valve broken/ blocked</li> </ol>	<ol style="list-style-type: none"> <li>1、 Check inlet water hose, screw tight, exhaust the air</li> <li>2、 Check pipeline, clean the contaminant</li> <li>3、 Replace water seal</li> <li>4、 Clean or replace the checking valve</li> </ol>
Hot Crankcase ( over 75°C)	<ol style="list-style-type: none"> <li>1、 Over-fill or less lubricant, emulsion</li> <li>2、 Wrong oil code</li> <li>3、 Contaminants inside, broken bushing,crankshaft bur</li> </ol>	<ol style="list-style-type: none"> <li>1、 Check oil level or replace lubricant</li> <li>2、 Use right code(L-CKD 220)</li> <li>3、 Clean, replace crankshaft</li> </ol>
Water or Oil Leak	<ol style="list-style-type: none"> <li>1、 Plunger rod wear</li> <li>2、 Oil seal broken</li> <li>3、 Plunger broken</li> <li>4、 Water seal broken</li> </ol>	<ol style="list-style-type: none"> <li>1、 Change plunger rod</li> <li>2、 Change oil seal</li> <li>3、 Replace plunger</li> <li>4、 Replace water seal</li> </ol>
Outlet water is hot, cylinder heated	Nozzle blocked	Clean nozzle